1905.

CITY AND COUNTY OF BRISTOL.

ANNUAL REPORT

OF THE

Medical Officer of Health,

AND OF THE

General Medical Superintendent of the City Hospitals.

———:o:———

Printed by order of the Health Committee.

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BRISTOL:
BENNETT BROTHERS, LD., PRINTERS, COUNTERSLIP.

1906.

HEALTH COMMITTEE.

1905–1906.

The Right Honourable The Lord Mayor:

ALFRED JOHN SMITH, ESQ.

Chairman:

Councillor COLSTON WINTLE., M.R.C.S.

Deputy Chairman:

Councillor FRANK MOORE.

Alderman TERRETT.

Councillor HENRY ANSTEY.
(*Chairman of Finance Sub-Committee*).

„ FREDERICK BURRIS.

„ T.M.CARTER,M.R.C.S.

„ JOHN COOLE.

„ E. M. DYER.

WM. JENNINGS.

Councillor H. McQUADE, M.D

„ W. G. POPE.

„ SAML. SHIRLEY.

„ J. S. G. W. STROUD

„ C. J. THORNE.

„ H. C. WOODCOCK

CITY OF BRISTOL.

HEALTH DEPARTMENT, 1905.

Medical Officer of Health: D. S. Davies, M.D., D.P.H.

Deputy-Medical Officer of Health: J. C. Heaven, L.R.C.P., D.P.H.

Statistical Clerk: W. N. Brown.

Chief Inspector: J. W. Kirley.

Superintendent Inspector: ‡*T. Lowther.

District Inspectors (12):

	District.		District.
H. Calcutt	(Central)	*†F. R. Slade	(St. Paul)
G. E. Bush	(Bedminster)	*†A. E. King	(Knowle)
*H. Hasell	(Horfield)	*†H. C. Leat	(S. Geo. W.)
*J. Wilkinson	(Clifton)	*†T. J Crofts	(Easton)
*H. J. Kirley	(Cotham)	*F. Kirley	(S. George E.)
*J. T. Lyons	(Stapleton)	*G. Best	(Bedminster)

Inspector of Common Lodging Houses and Bakehouses:

*S. O. Dimond.

Inspector of Dairies, Cowsheds and Milkshops:

*†E. J. Casely.

Inspectors of Slaughter Houses, Meat and Fish:

S. Thomas. | *A. Gitsham.

Inspectors of Workshops, &c.:

*†A. W. Griffiths. | *W. J. Wreford.

Chief Clerk: L. W. A. Statton.

Clerks:

C. W. M. Vincent, L. P. Wilson, E. E. Masters, J. G. Watson.

CITY HOSPITALS.

General Medical Superintendent: (Supervisory) D. S. Davies, M.D., D.P.H.

Visiting Medical Officer at Novers Hill and Clift House Hospitals:

G. C. Pauli, M.R.C.S.

Resident Medical Officer at Ham Green Hospital: J. Fletcher, M.D., D.P.H.

PORT OF BRISTOL.

Port Medical Officer of Health:

D. S Davies, M.D., D.P.H.

Assistant Port M.O.H.: J. C. Heaven, M.R.C.S., D.P.H.

Chief Inspector: S. Dimond.

Port Inspector: A. Dickens.

Assistant Port Inspector and Boatman: J. Rex.

Master of S.S. "Luath": §G. Jackson.

‡ Surveyor's Certificate, Sanitary Institute.
* Inspector's Certificate, Sanitary Institute.
† Registered Plumber.
§ Certificated Pilot for Bristol Channel.

REPORT.

PART 1.

Population, Acreage, and General Sanitary Condition.

My Lord Mayor and Gentlemen,

As a result of the Bristol Extension Act, 1904, a further addition of 13,000 persons, upon an area of 5,347 acres has increased the total population of the City, at the end of 1904 to 354,000 persons, living upon an area of 17,000 acres.

Table A.

Showing Population, Acreage, and number of Persons per Acre (Density) in each of the Registration Sub-Districts of Bristol for 1891 and 1905.

Registration Sub-Districts, 1891. (Census Year)	Acreage.	Population middle of 1891.	Density, 1891.	Registration Sub-District, 1905.	†Acreage.	Population middle of 1905.	Density 1905.
S. Mary Redcliff ...	170	9,287	54·6	S. Mary Redcliff (Including Castle Precincts, and part of St. Paul). ‖ Bristol Central			
Castle Precincts ...	119	5,558	46·7				
S. Paul	148	19,046	128·6		810	41,864	51·6
S. James	68	7,817	114·9	‡S. Paul and S. Augustine			
S. Augustine ...	250	13,788	55·1				
Bedminster ...	992	45,812	46·1	Bedminster, Knowle, etc. ... (Including Somerset added area)	1,924 / 1,184	81,179	26·1
Clifton	921	29,361	31·8	Clifton	1,504	44,462	29·5
Ashley	434	24,190	55·7	Ashley ... ... (Including Avonmouth and Horfield.)	1,365	44,144	32·3
S. Philip	744	51,650	69·6	S. George	1,846	63,612	34·4
Westbury	692	15,540	22·4	S. Philip	736	48,639	66·0
				Stapleton	2,573	24,151	9·3
				Westbury-on-Trym (Including the whole of Shirehampton, Westbury-on-Trym, and part of Henbury, added to City from Barton Regis Rural District, 1st October, 1904.)	5,347	10,464	1·9
Bristol City (1891)	4,538*	222,049	48·93	Bristol City (1905)	17,289	358,515	20·73

* Ordnance calculation, including water areas

† Census, 1901, and including district added on 1st October, 1904.

‡ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st April, 1904, S. Augustine Sub-District shall be united with S. Paul Sub-District, and the enlarged Sub-District so formed, shall be called and known as S. Paul and S. Augustine Sub-District.

‖ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st December, 1905, the S. Mary Redcliff Sub-District shall be united with S. Paul and S. Augustine Sub-District, the enlarged Sub-District be called and known as Bristol Central Sub-District.

WATER SUPPLY.

The water supply is in the hands of a Company incorporated by Act of Parliament, and is obtained by gravitation from springs in the triassic conglomerates and carboniferous limestone on the sides of the Mendips, about 16 miles from the City; and by pumping from the Yeo Reservoir, and Rickford and Langford Springs about 12 miles from the City. From the Yeo Reservoir and the Springs the water is lifted 250 feet into the aqueduct which carries the gravitation supply to the Store Reservoirs at Barrow Gurney.

All water supplied from the Store Reservoirs is filtered before delivery.

A supplementary supply is obtained from the deep wells at Chelvey, eight miles from Bristol, sunk in the new red sandstone (triassic).

The water service throughout the Company's District is constant, and the average daily consumption is about 23 gallons per head of the population supplied.

The Company has power to make an annual charge for each closet flush, in addition to the charges for other domestic purposes (not now enforced in the case of a second W.C. cistern in houses of the gross value of £30 and under), hence very many out-door closets throughout the City are dependent upon hand-flushing. After 25th March, 1896, the charge for flushing cisterns in dwelling-houses of the gross value of £20 and under, was reduced to one shilling per quarter.

Well Waters Examined (1905).

Fit, 16; Unfit, 23.

Analysis of Water supplied by the Bristol Water Works Company.

(Results stated in Grains per Imperial Gallon).

	Gauge House Barrow. (Unfiltered Water.)	Cold Bath Spring.	Deep Well, Chelvey.
Colour in 2-ft. Tube...	Greenish Brown	Pale Green	Pale Green
Sediment	Sand, Algæ	None	None
Saline Ammonia	·001	·0007	·0002
Albuminoid Ammonia	·004	·0020	·0010
Nitrogen as Nitrates	·09	·12	·17
Nitrites.....	None	None	None
Chlorine as Chlorides	·97	·91	1·13
Oxygen absorbed in 4 hours.....	·039	·003	·014
Total dissolved Solids	19·70	23·50	22·54
Lime	9·06	11·05	9·88
Magnesia	·65	·92	1·18
Sulphuric Anhydride ($S.O_3$).....	·86	·98	·83
Lead, Copper or Zinc	None	None	None
Total Hardness.....	16·0	20·5	20·0
Permanent do.	3·5	4·5	5·0

F. WALLIS STODDART, F.I.C., F.C.S.,
City Analyst.

Sewerage, Drainage, Scavenging, etc.

All these matters are reported upon annually by the City Engineer to the Sanitary Committee.

Parks and Open Spaces.

The Parks and Open Spaces available for the recreation of the people comprise in all 728 acres, including Clifton and Durdham Down, which have a combined area of 442 acres.

Of the 728 acres, 286 are laid out as parks, gardens, or playgrounds ; but the public has the right to wander over about 540 acres. Wicket pitches are allowed on Durdham Down and in four of the parks. The net annual cost of the Parks and Open Spaces is about £5,000.

Medical Inspection in Public Elementary Schools.

This matter is now engaging the attention of the Education and Health Committees.

The number of children attending the Board Schools in September 1897, before the extension of the City, was 18,077, and attending other schools was 21,868 ; or a total of 39,945. In 1898 the City was enlarged, a further enlargement took place in 1904, and by the end of 1905 the total number of scholars attending the schools controlled by the Education Committee had risen to 66,153 :—

	No.	Accommodating.
Council Schools	46	40,607
Church of England Schools	43	21,988
Wesleyan School	1	743
Friends' School	1	500
Roman Catholic Schools	5	2,315
Totals	96	66,153

The following Rules have been adopted by the Bristol Education Committee.

Regulations as to Schools and Communicable Diseases.

Infectious Fevers, etc.

1. No Scholar, Teacher or other Officer of the Committee shall attend School while suffering from Smallpox, Scarlet Fever or Scarlatina, Typhoid (or Enteric) Fever, Diphtheria, Membranous Croup, or other notified disease ; Whooping Cough, Chicken Pox, Measles, German Measles, Mumps, Ringworm, or Itch.

> " Sore Throat " should be carefully watched because it often betokens mild Diphtheria, or incipient Scarlet Fever.

2. No Scholar shall attend School from a house where there is, or has been recently, a case of Smallpox, Scarlet Fever or Scarlatina, Diphtheria, Membranous Croup, or other *notified* disease, until the clearance card (C.C.) has been received from the Medical Officer of Health.

3. No Scholar shall attend an *Infants'* School from a house where there is a case of Measles, German Measles, Whooping Cough, Chicken Pox, or Mumps : but Scholars in departments for older children *who have previously had the disease in question* need not be excluded.

4. Teachers or other Officers of the Committee living in infected houses should send written notice to the Medical Officer of Health, who will advise and decide as to the desirability of their continuance at School.

5. Every Head Teacher suspecting that any Scholar is suffering from a communicable disease mentioned in Regulation 1, or that any Scholar comes from an infected house, shall temporarily exclude the suspected Scholar, and advise that private medical aid be at once sought.

In the case of Smallpox, Scarlet Fever, or Scarlatina, Typhoid (or Enteric) Fever, Diphtheria, Membranous Croup, not previously notified, and in every case of Whooping Cough, Chicken Pox, Measles, German Measles, Mumps, *immediate* notice should be sent to the Medical Officer of Health on the yellow card (H.D.).

Persistent Sore Throat should also be notified to the Medical Officer of Health.

6. In regard to cases visited at their homes, the Attendance Officer shall furnish the Medical Officer of Health with *immediate* notice of any case, or suspected case, of the diseases mentioned in Regulation 5, in respect of which the Attendance Officer has reason to suspect that information has not been already sent to the Medical Officer of Health.

The action to be taken in cases reported under Regulations 5 and 6, will be communicated by the Medical Officer of Health on the yellow card (H.D.) which will be returned to the Head Teacher as quickly as the necessary investigation can be completed.

Guildhall, Bristol.
May, 1905.

I am informed that only 44 children under 3 years of age were attending the Public Elementary Schools in October, 1905, and that in certain schools the Education Committee have decided to exclude children under 5.

In some of the poorer districts, however, children under 5 will be admitted, but none under 3 years of age.

Housing of the Working Classes.

The following Table shows the action taken over a period of 16 years :—

Date.	No. of Houses dealt with.	No. of Houses closed.	No. of Houses made habitable.
1890	35	30	5
1891	72	27	45
1892	26	18	8
1893	2	0	2
1894	34	18	16
1895	31	18	13
1896	28	10	18
1897	4	3	1
1898	9	7	2
1899	33	31	2
1900	21	6	15
1901	6	1	5
1902	64	61	3
1903	67	58	9
1904	34	16	18
1905	28	11	17
Total ..	494	315	179

Municipal Lodging House.

The Corporation has erected, on the recommendation of the Health Committee, a Lodging House for Casuals in Wade Street, to provide 120 beds, at a cost of over £7,000.

This Lodging House was opened on April 20th, 1905.

The average weekly attendances number 392·3.

MORTUARIES.

Quakers' Friars, off Merchant Street, *Post-mortem* Examination Room and Coroner's Court adjoining.

Crew's Hole, St. George, near the Ferry.

In addition to the above, there are Mortuaries for Police purposes at Bedminster and Redland Police Stations; there was one at Trinity Road Police Station, but it is not now used in consequence of the close proximity of Merchant Street.

At Avonmouth arrangements have been made with Sir John Aird & Co., to use the Mortuary at their Private Hospital as a temporary arrangement.

THE MIDWIVES' ACT, 1902.

This Act, which came into force on 1st April, 1903, prescribes *inter alia* :—

1. That from and after the 1st April, 1905, it shall be an offence punishable by fine for any woman, who is not certified under the Act, to take or use the name or title of Midwife, or any name or title implying that she is certified under the Act.

2. That from and after the 1st April, 1910, no woman shall habitually and for gain act as a Midwife, otherwise than under the direction of a qualified medical practitioner, unless she is certified under this Act, under a fine of £10.

3. *Provision for existing Midwives.* Any woman who, within two years from the date of the Act coming into operation (April, 1903), claims to be certified under the Act, shall be so certified, provided she holds a Certificate in Midwifery from certain approved qualifying Bodies ; *or produces satisfactory evidence that at the passing of this Act she had been for at least one year in bonâ fide practice as a Midwife,* and bears a good character.
4. The Council of every County Borough is the Local Supervising Authority over Midwives ; and the Central Midwives' Board in London is the Central Supervising Authority, and have laid down Rules and Regulations for the execution of the Act.

The duty of the Local Supervising Authority includes general supervision over every Midwife practising within their area, medical supervision of the appliances, methods and records, inspection of her place of residence, and investigation of her mode of practice, as laid down by the Central Midwives' Board, suspension of Midwives from practice, if found necessary, to prevent the spread of infection, and other general registration and control.

At present, under the Notification Act, cases of Puerperal Fever are directly notified to the Medical Officer of Health, and all measures for preventing the spread of infection are naturally executed by the Health Department. The Regulations of the Central Midwives' Board (E. 5), prescribe that under this Act all disinfection and other precautions are to be done to the satisfaction of the Sanitary Authority ; and the same Board, in its suggestions to County and County Borough Councils, has assumed that the Health Committee would naturally form the nucleus of a Local Supervising Authority with power to add to its number from outside the Council or otherwise.

The Council of the City of Bristol on 10th November, 1902, however, deputed the working of this Act to the Watch Committee.

AMBULANCE SERVICE AVAILABLE IN THE CITY OF BRISTOL.

Property of	Address.	Telephone No.	Telegrams.	Class of Cases Removed.	Office Hours.	Method of obtaining Ambulance.
Corporation of Bristol ..	40 Prince Street	789	Hygiene ...	Infectious	9.30–5 ... ... Except { Sat., 9.30-1 Sun., 12-1	By Notification to the M.O.H.
St. John Ambulance Brigade (City of Bristol Corps)	20 Somerset Square, Redcliffe ... and	2400X ... .. (calls day or night)	Ambulance ...	All except Infectious Diseases	Day and Night ...	By communicating with the Hon. Sec, Capt. J. F. Trezise, 20 Somerset Sq., Redcliffe
Transport Department ...	Narrow Quay	1228 (calls by day)				
Ditto "Imperial" Section ...	Wills' Factory, East Street, Bedminster	1471	Wills, Bristol	Accidents	Summer ... 7-5 Winter ... 8-6	Telephone or Messenger.
Bristol Tramway & Carriage Company	Brunswick Square Depôt ...	333	Cab (Brunswick Square)	Special Cab retained for Infectious Diseases	Day and Night ...	Ring up or Wire

DISINFECTING STATION AND AMBULANCE SERVICE

Considerable alterations and additions have been made at the Disinfecting Station, which is on the site formerly occupied by the City Smallpox Hospitals in St. Philip's Marsh. The surrounding wall has been raised to a uniform height of 7 feet, and the buildings now comprise :—

(1) Disinfecting Block, containing 2 Steam Disinfecting Machines, Receiving Room, Clearing Room, and a Boiler House.

These rooms have been erected for 3 years, and are sufficient for the purpose, except that the Boiler House would be more convenient if a little larger. No laundry is attached, as this was deleted from the original plans.

The new buildings, which will be completed in 1906, comprise stabling for 8 horses and 2 loose boxes. The stabling is of modern construction, fairly lighted and well ventilated, and has enough accommodation for the ambulance horses and the horses used in the disinfecting carts. Near to the stable is a small forage room, a harness room, which is also to be used as a mess room, and offices.

The accommodation in the forage room and harness room is somewhat small, and has been reduced from the original plans. The old sheds have been enlarged and adapted to serve as coach house and cart shed.

When the stables are completed it is contemplated to remove the Ambulance Service from Clift House Stables, where there is cottage accommodation for both the ambulance driver and the stableman, and also at the adjacent hospital, accommodation for the ambulance nurse.

Upon this transference it will be necessary to complete the work contained in paragraphs 3 and 4 of my general recommendations dated November 14th, 1904, with reference to the City Extensions (1904) :—

"The work to be carried out at this Central Station is so important that a caretaker, who would be a superintendent disinfector, should reside on the premises. For this purpose a cottage is required, containing a bedroom, sitting room, scullery, and the necessary offices on the ground floor for the caretaker. A small office and Commons room and lavatory should be provided near the entrance for the use of the caretaker; also accommodation for the ambulance nurse, if the stables are removed to the disinfecting station; and provision should be made for the workmen for changing their clothes and keeping their clothes and persons free from infection."

I also recommended and still consider it advisable to provide in connection with these :—

"Four rooms on the first floor for use under the Infectious Disease (Prevention) Act."

FLOCK USED FOR BEDDING.

On 20th December, 1904, the Chief Inspector presented a report with regard to the use of flock for bedding, and made reference to a paper written by Mr. Peter Fyffe, Chief Inspector, Glasgow.

This matter was referred to me to secure any necessary examination or analysis.

Mr. Stoddart's careful report imports some scientific value into the discussion. It seems to be vain to count bacteria, and estimate organic matter from such a material as Flock, and irrelevant to institute comparisons with sewage.

Stripped of the chemical atmosphere the common sense fact remains that the material of which flock is composed may have been derived from dirty or even infective sources, and careful cleansing would minimise, if not entirely remove, any consequent risk.

A measure to promote the use of cleanly bedding and to penalise the sale of filthy material would be altogether in the interests of public health.

WESTERN COUNTIES LABORATORY, BRISTOL.
4TH FEBRUARY, 1905.

DEAR SIR,

FLOCK FOR BEDDING.

I have given this matter my careful attention, and have repeated on the samples received the observations recorded by Mr. Fyffe in the pamphlet which accompanied them. Many of my results are in accord with those obtained by Mr. Fyffe's colleagues, some are not; and some of Mr. Fyffe's conclusions are, I think, scarcely substantiated by the experimental data, especially those derived from the "suspended solids" on which especially emphasis is laid in the pamphlet. The process the rags undergo produces much finely divided fabric, which will naturally yield "volatile organic matter," "albuminoid ammonia," and "greasy matter." I have therefore confined my attention to the matters soluble in water in carrying out the chemical examination, and have obtained the following figures from a watery solution or extract prepared exactly in the way described in the pamphlet. The figures represent grains per gallon :—

	Flock No. 8 (unwashed).		Flock No. 4 (washed & dried).
Saline Ammonia	2·24	....	·14
Albuminoid Ammonia	1·582	....	·784
Oxygen absorbed in 4 hours..	14·70	....	8·40
Chlorine as Chlorides	10·6	....	1·68
Total solids in solution.....	137·2	....	5·88

These results are in fair agreement with those of the Glasgow City Analyst, and undoubtedly prove that the flock, both washed and unwashed, yields a remarkable amount of soluble organic matter to water, and I think it may fairly be assumed that a great part of this is

filth of a more or less objectionable character, though whether it is strictly comparable or not with sewage is, in my opinion, a matter of some doubt. If there is anything in the analogy it is sufficiently evident that, under the conditions of the experiment, a liquid is produced from the washed flock that is a good deal more impure than average Glasgow sewage. Probably more information as to the nature of this soluble matter is to be got from a bacterioscopic examination of the flocks, and here I differ essentially from the Glasgow bacteriologist in both results and conclusions.

I find that the number of organisms on gelatine separated from one gramme of flock by shaking with water is as follows :—

Flock No. 8 (Unwashed).	Flock No. 4 (Washed & Dried).	Flock No. 5, ready for use
136,000	466,000	1,688,000

The number, therefore is much greater in the prepared than in the crude flock.

But what is more to the purpose is that from none of the extracts could forms indicative of excremental matter be separated. There are now several kinds of bacteria known to be always present in sewage and similar substances ; these are Bacillus Coli, Bacillus Enteritidis Sporogenes, various forms of Streptococcus, and a species of Proteus. None of these could be found in typical shape in a reasonable quantity of the extract, but the numerous organisms present appeared to be of the nature of those commonly present in atmospheric dust. On the whole, therefore, the evidence furnished by the samples of flock sent me rather tends to show that there is nothing very dangerous about them, and that the process of washing and drying as practised only partially removes certain matters to which objection may be taken.

This, I think, is as far as the examination of these particular samples will take one, but I do not wish to be understood as deducting that no precautions need be taken against the spread of disease by material collected haphazard from the refuse of a City.

Such a position would clearly be quite untenable, because it must be impossible to prove by any number of negative experiments that a refuse material over the history of which there can be no satisfactory control will always be harmless, even if those experiments were much more conclusive than the means at present at our disposal can make them.

I think that some regulation under which all flock intended for bedding shall be efficiently purified is distinctly desirable, and seeing that there is no question of damage to colour or texture, I think there should be no difficulty in devising a method which may be at once cheap and reliable.

Yours faithfully,

(Signed) F. WALLIS STODDART.

Dr. D. S. Davies, M.O.H., Bristol.

VACCINATION.

The 1904 returns are the last complete ones available. I am indebted to the Clerk of the Bristol Union for the following information :—

	Bristol Union.
Vaccination.	
Number successfully vaccinated up to 31st January, 1905.....	6,638
Insusceptible.....	26
Died unvaccinated	1,029
Postponed by Medical Certificate	222
Certificates of Conscientious Objection	245
Removed to Districts, the Vaccination Officer of which has been duly apprised	302
Cases left and not traceable.....	706
In abeyance	486
Births registered in 1904	9,654
*Percentage of successful vaccination to births	68·76

* A special return of Certificates of successful primary vaccinations at all ages received in each of the calendar years 1900, 1901, 1902, 1903, and 1904, was furnished at the request of the Local Government Board, and showed as follows :—Certificates received in 1900, 5,917 ; in 1901, 5,776 ; in 1902, 6,898 ; in 1903, 6,972 ; in 1904, 7413 ; and in 1905, 7,253.

PAUPERISM.

***Bristol Union.**—Summary of persons relieved on the following dates: the first named date (1st April, 1898) being the date of the formation of the Union for the City and County of Bristol.

	1st April, 1898.	1st April, 1899	1st April, 1900.	1st April, 1901.	1st April, 1902.	1st April, 1903.	1st April, 1904.	1st April, 1905.	1st April, 1906.
In Workhouses and Children's Homes	2,357	2,281	2,305	2,408	2,355	2,388	2,513	2,578	2,528
In Institutions, &c.	114	116	127	127	148	155	149	159	146
In Lunatic Asylums	826	824	810	830	847	856	859	869	875
Out-door poor ...	7,796	6,409	5,847	5,837	5,845	5,829	6,030	6,425	6,116
	11,093	9,630	9,089	9,202	9,195	9,228	9,551	10,031	9,665
Weekly cost of Out-relief	£724 6 1	£683 14 11¾	£644 14 7	£662 18 4¾	£697 16 9½	£710 0 10½	£746 4 3½	£803 19 8	£792 12 2½

* The Union was much increased in area and population in October, 1904.

GENERAL AND VITAL STATISTICS.

Population.

	Area in Acres	Population (Estimated)	Rateable Value
City of Bristol, 1897	4,661	232,242	£1,153,311
Additions of 1897	6,756	85,800	£246,815
Additions of 1904	5,347	13,443	£69,560
City of Bristol, 1905	17,004	358,515	£1,775,447

This table shows that the City covers not quite four times the acreage which it covered in 1897, and is more populous by 126,273 persons. The City Medical Officer of Health has inherited the duties and responsibilities of the Medical Officers of Health of this added city; considerable economy has thus been effected in the medical administration, as the salaries of the various medical officers have lapsed.

Births.

The births registered in Bristol in 1905 were 9,649, of which 253 were returned as illegitimate, a percentage of 2·6.

The birth rate for the year was 26·9, an increase on the rate of last year, which was 26·6; the rate has since 1881 shown an almost continuous decrease. (Table B). The rate for the 76 great towns in 1905 is 28·2.

The excess of births over deaths during the year 1905 (*natural increase of population*) is 4,363. The estimated *actual increase* from 1904 to 1905 is 4,072.

Marriages.

2,870 Marriages took place within the Borough of Bristol during 1905. The annual marriage rate per 1,000 living is thus 8·0 compared with 8·4, the rate of last year. The area from which marriages are returned now coincides with the Borough of Bristol.

Deaths.

5,286 Deaths were registered in the district during the 52 weeks ending the 30th December, 1905, of which 93 or 1·7 per cent. were returned as deaths of illegitimate children. The recorded general death rate for the year, uncorrected for age and sex distribution, is 14·74 per 1,000 living, compared with a rate of 15·58 for the year 1904. The death rate recorded for the 76 large towns in 1905 is 15·7.

Infant Mortality.

Of the 5,286 Deaths, 1,182 were of infants under one year. The proportion of these deaths to every 1,000 births (infant mortality) was 122·4, compared with a rate of 133·7 for the year 1904, and the unusually low rate—116·3—for 1903. The rate recorded in the 76 large towns is 140.

The Infantile Mortality rate varied thus :—

Bristol Central	155·1
St. Philip	142·4
Stapleton	122·3
St. George	120·5
Westbury-on-Trym	118·1
Bedminster	112·9
Clifton	98·2
Ashley	93·3
Knowle..	91·2

In Table B will be seen the annual infantile mortality rates in Bristol for the past 25 years.

Seven Chief Epidemic Diseases.

(Zymotic Rate).

The rate of mortality from the seven chief epidemic diseases, viz., Small-pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Fever (Typhus, Enteric, and Simple continued Fever or Pyrexia), and Diarrhœa was, in 1905, 1·6 per 1,000 living, compared with a rate of 1·6 in 1904, and 1·1 in 1903. The rate recorded for the 76 great towns in 1905 is 1·8.

Annual Rates per 1,000 living. 1905.

	Births	Deaths	Principal Epidemic Diseases. Cols. 4—10.	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhœa	Deathsunder one year to 1,000 Births
Cols. ...	1	2	3	4	5	6	7	8	9	10	11
England and Wales	27·2	15·2	1 52	0·00	0·32	0·11	0·16	0·25	0·09	0·59	128
76 Great Towns	28·2	15·7	1·88	0·00	0·39	0·13	0·16	0·29	0·08	0·83	140
141 Smaller Towns	26 9	14·4	1·50	0·00	0·31	0·11	0·15	0.23	0 13	0·57	132
England and Wales) less the 217 Towns)	26·3	14·9	1·09	0·00	0·24	0·09	0 15	0·20	0·09	0·32	113
Bristol	**27·0**	**14·6**	**1·50**	**0·00**	**0·50**	**0·11**	**0·16**	**0·34**	**0·03**	**0·36**	**122**

Mortality at Ages between 1 and 65.

2,768 Deaths were returned, corresponding to an annual rate of mortality per 1,000 living, between these ages, of 7·7 compared with a rate of 7·9 in 1904, 7·5 in 1903, and 9·9 in 1902. The new tables of the Local Government Board group the ages 1—65, which are no longer comparable with the age grouping 1—60, adopted by the Registrar-General for the large towns.

Mortality amongst Aged People.

1,336 Deaths of Persons aged 65 and upwards were registered, whose ages averaged 75 years and 5 months. The rate of mortality amongst persons living at these ages was in Bristol 80·2, compared with 86·7 in 1904, and 75·3 in 1903.

Prevalence of Sickness in 1905.

Small-pox.

The prevalence and fatality of this disease is here shown for the past 16 years :—

SMALL-POX.

Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per cent.
1890	0	—	0	—	—
1891	16	7	1	0·4	6 2
1892	0	—	0	—	—
1893	165	73	20	8	12 1
1894	201	88	16	7	7·9
1895	4	1	0	—	—
1896	42	18	5	2	11·9
1897	10	4	1	0·4	10
1898*	2	0 6	0	—	—
1899	0	—	0	—	—
1900	0	—	0	—	—
1901	1	0·3	0	—	—
1902	4	1	2	0 6	50
1903	46	14	3	0 8	6·5
1904‡	34	9	1	0·2	2·9
1905	13	3	0	—	—

* City Extended. ‡ City again Extended in 1904.

It becomes at once evident from this Table that, since notification began (1889-90), Small-pox has only once (1893-4) assumed epidemic proportions ; in every other year when the disease was brought to the City, the cases have either been limited to those actually introduced, or spread has been successfully limited to the primary offshoots of the introduced case or cases.

Smallpox in Bristol in 1905.

This disease was present in the neighbouring counties during the spring, as certain railway works offered an inducement to many persons seeking employment, and some of these brought Smallpox with them.

Early in May I found that I had, in six weeks, received seventeen warning notices from the Medical Officers of various districts ; so the Novers Hill Smallpox Hospital was cleared for action, and its thirty-five beds held in reserve.

This precaution was justified on Saturday, 13th May, when a well marked case (825) of Smallpox was notified from the Eastville Workhouse ; another case (832) from a different district was notified on 15th May from the Bristol Workhouse.

At the time I pointed out to your Committee that the available accommodation was quite inadequate to meet the pressure of any outbreak upon a city of the present size of Bristol (358,515), and that reliance upon ten years' success in control of smallpox introductions was not justified, as the personal element which had apparently been responsible for this success, is always liable to the possibility of failure, and when precautions fail, beds are needed.

On 26th May a case (882) was reported from Stapleton Workhouse, and on 2nd June yet another case from a Common Lodging House in Gloucester Lane. These four cases came from various parts of the country, and as they left no issue, the interest of the City in them ceases with their discharge from Hospital.

The next case was of more than passing interest, for not only did it result in five contact cases, but one of these so comported himself that he bid fair to spread the disease broadcast.

On June 6th, J. S., (954), introduced Smallpox from a railway works centre in Gloucestershire. This man conveyed the disease to Avonmouth, where he slept on two nights at a lodging house inhabited by 35 other persons, all dock labourers. This resulted in 5 contact cases, 4 of which were duly detected and reported by the Works' Doctor, who was watching for them. The fifth case, unfortunately, showed no signs of sickening or only slight signs, so that the man was able to keep at work and avert suspicion until the eruption came out. Even then he would have been detected at the lodging house, where contacts were being carefully watched for, had not the keeper of the lodging house refused to admit him one evening when he applied (because he had spots on him), and neglected to report the case, a curious ostrich-like policy not uncommon amongst the ignorant.

The man was, consequently, lost sight of, and slept in the fields, and on the following day wandered into a public house, where he stopped drinking amongst large numbers of workmen for some hours ; his eruption was well out by this time.

Here were the makings of a considerable outbreak ! I called a special meeting of the Committee, urged the provision of further hospital accommodation, and asked for special medical aid. The latter was granted.

An Inspector was lent from Central Bristol,* and for a fortnight took up residence in Avonmouth. Dr. Fletcher paid daily visits to watch all arrivals and departures by the workmen's trains ; Dr. Heaven paid nightly visits with the Inspector to the City Common Lodging Houses, warning letters were despatched to every medical practitioner in the City, stating the exact dates when resultant cases were due ; the Workhouses were on guard ; the Dock authorities and their Medical Officer kept a careful look-out.

* No Inspector has as yet been appointed for the District added in 1904.

There is, of course, no need for anxiety about the sickening of contacts from a known case, until after the tenth day from the first exposure to effective infection (I have not found smallpox effective before the appearance of the papular rash, except perhaps to bed-contacts); and we spent the intervening days in careful organisation; between the tenth and eighteenth day the medical vigilance was incessant. One case almost walked into the Medical Officer's arms in a Common Lodging House passage; a second, very mild, possibly doubtful case occurred in a porter at a station frequented by dockmen, and—that was all.

I have no explanation; possibly, not very improbably, we raised such a hue and cry that knowing contacts gave the City a wide berth. The type of disease was, as noticed since 1903, of an extremely mild or "minimal" type, which is possibly not highly infectious except to intimate or bed-contacts, which will sometimes attack several unvaccinated members of a family with merely nominal attacks, leading, after a well-marked fever, or in some cases after no noticeable fever, to an insignificant and abortive rash, with no secondary fever; but which will now and again show it can be both dangerous and fatal.

This variety, if it could be relied upon never to vary, would be of as little importance as chicken pox. It appears to have been imported from North America, and seems to be the variety chiefly prevalent for some three years past in the Midlands and South of England, though it co-exists with the ordinary severe epidemic form which still prevails in some of the North Country outbreaks.

Although so mild, it is troublesome for two reasons, first, it is so unlike the textbook forms that experienced smallpox medical officers and nurses have to re-learn much of their experience; and its very mildness leads to its widespread through cases so slight that they are readily "missed" both by parents and doctors.

"A touch of influenza, followed by a couple of heat spots on the face and one or two on the wrist," is a fair popular description of the "minimal" type, for which people will not and do not seek advice, but such cases are eagerly sought out by us amongst contacts.

The above cases involved supervision over a very large number of contacts, and this was carefully and effectually carried out by the doctors and inspectors concerned, under my general instructions.

Scarlet Fever or Scarlatina.

During the year 1905, 1,085 cases of Scarlet fever were notified, and 39 deaths occurred, giving a case mortality of 3·5 per cent.

The prevalence of, and fatality from, this disease for the past sixteen years, that is to say, since Notification commenced, is shown here. Columns 2 and 4 should be used in comparing different years, as they are adjusted for the varying populations.

SCARLET FEVER.

	1	2	3	4	5
Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per Cent.
1890	559*2	2·3	40	18	7·1
1891	888	400	37	17	4·1
1892	1,442	644	47	21	3·2
1893	1,245	553	35	16	2 8
1894	485	214	16	7	3·2
1895	562	252	16	7	2·8
1896	1,352	586	59	24	4·3
1897	511	220	18	7	3·5
1898*	382	120	14	4	3 6
1899	697	217	13	4	1·8
1900	1,971	606	39	12	1·9
1901	2,206	670	36	10	1·6
1902	2,724	798	66	19	2·4
1903	2,168	639	49	14	2·2
1904§	1,258	366	36	10	2·8
1905	1,085	302	39	10	3·5

* City Extended. § The City has been further Extended in 1904.

*2 Notification commenced on February 12th, 1890, so that the case mortality for this year is probably overstated.

The disease has been decreasingly prevalent throughout the year, and has again been of mild character; the number of deaths per 100,000 population was exceeded in the years 1890, 1891, 1892, 1893, 1896, 1900, 1902, and 1903, that is to say, in 8 years out of the 16.

The notifications have declined considerably since the previous year.

The distribution of attacks by age is shown below :—

0–1	1–5	5–15	15–25	25 +	Total.
7	346	636	68	28	1,085

The distribution of the disease in each quarter of the year is shown in the following table for each Registration Sub-district of the City :—

SCARLET FEVER.

REGISTRATION Sub-District.	CASES NOTIFIED.				Year, 1905	Attack Rate per 100,000 Living
	1st Qr.	2nd Qr	3rd Qr	4th Qr		
Ashley	31	19	25	52	127	287
Bedminster	51	32	30	34	147	223
Bristol Central ...	35	29	32	43	139	332
Clifton	31	22	16	30	99	222
Knowle	36	26	16	19	97	633
S. George	29	21	57	97	204	320
S. Philip	17	16	44	63	140	287
Stapleton	14	9	12	20	55	227
Westbury-on-Trym ...	9	5	16	11	41	392
Municipal Institutions ...	3	1	1	29	34	—
Not belonging to City ...	1	—	1	—	2	—
Total	257	180	250	398	1085	302

The attack rate per 100,000 population was lowest in Clifton, Bedminster and Stapleton, and highest in Knowle and Westbury-on-Trym.

Isolation in Scarlet Fever at a public Hospital is not needed for the children of persons in good circumstances, who will indeed do as well or better at home at the expense of some little inconvenience and trouble to the parents. Isolation Hospitals have their use in securing isolation in cases which cannot possibly receive adequate attention at home ; as, for example, amongst the homes of the poorer wage-earners, with large families and few rooms.

The epidemic of Scarlet Fever, which began in 1900, has afforded the first opportunity we have had of observing the habits of this disease in the extended City. The added districts have proved very susceptible of infection, as was anticipated, and the immense increase in population and area has had the marked effect of prolonging the outbreak. The deficient Hospital accommodation has prevented any complete attempt at controlling the spread of disease by isolation. The epidemic wave shows signs of substantial diminution after five years' prevalence.

The difference in the fatality of Scarlet Fever forty years ago and now is quite remarkable. For instance, in 1863 and the following year over 1,100 deaths occurred from this disease. In 1869 and 1870 over 900 deaths occurred, in 1875 and 1876 over 700, and in 1880 and 1881 nearly 400. In 1886 and 1887, 300 deaths occurred. The next epidemic was in 1896, when 59 deaths resulted. In 1900 a larger epidemic caused only 39 deaths, in 1901 a still greater prevalence of the disease resulted in only 36 deaths, while in 1902 the deaths rose to 66. The population in 1905 was 358,000 compared with 158,000 in 1861. If there had been a similar loss in regard to population as there was in the epidemic of 1863, the number of deaths in 1905 would have reached 2,000 instead of being only 39.

Enteric Fever (Typhoid Fever).

During the year 1905, 76 cases of Enteric Fever were notified, and 13 deaths occurred, giving a case mortality of 17 per cent. The deaths are exactly half the number returned in 1904, and both notifications and deaths are the lowest recorded.

The prevalence and fatality from this disease for sixteen years past is here shown :—

ENTERIC FEVER.

	1	2	3	4	5
Years.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000. Living	Case Mortality per Cent.
1890*[2]	122	55	33	14	27·0
1891	116	52	23	10	19·6
1892	135	60	18	8	13·3
1893	122	54	26	11	21·3
1894	90	39	21	10	23·3
1895	89	39	22	9	24·7
1896	110	47	20	8	18·1
1897	343	147†	47	20	17·4
1898*	113	35	26	8	23
1899	219	68	35	10	16
1900	293	90	44	13	15
1901	281	85	40	12	14
1902	319	93	58	17	18
1903	134	39	21	6	15
1904‡	172	50	26	7	15
1905	76	21	13	3	17

* Extended City † Milk Outbreak introduced from the County.

*[2] Notification commenced February 12th, 1890, so that the case mortality for this year is probably overstated. ‡ City again extended in 1904.

No estimate can be made as to the number of cases occurring before 1890, when Notification commenced; the high figures of 1897 are due to the introduced milk outbreak of that year. In 1897, the City, containing 232,242 people, was extended, and in 1904 contained 343,204 persons, an increase of 110,962 persons. In 1904, a further extension was made. Allowance in column 2 and 4 is made for the increase of population year by year, and the figures in these columns should be used for comparison. The attack rate fell very considerably in 1903 and 1904 from the high rate of 1902, and the death-rates (Col. 4) for the years 1903 and 1904 was the lowest recorded up to then. The phenomenally low rate of 1905 is half the lowest rate previously recorded.

The distribution of the disease in each quarter of the year is shown in the following table, for each Registration Sub-district of the City. The sub-districts most affected are seen to be St. George, St. Philip, and Bristol Central, but even in these districts the rates are remarkably and most satisfactorily low for a City containing 358,000 persons.

REGISTRATION. Sub-District.	Cases Notified.				Year 1905.	Attack Rate per 100,000 living.
	1st Qr.	2nd Qr.	3rd Qr	4th Qr.		
Ashley	—	—	2	2	4	9
Bedminster	—	—	—	1	1	1
Bristol Central	3	1	5	4	13	31
Clifton	1	1	1	1	4	8
Knowle	—	—	1	—	1	6
S. George	3	7	3	4	17	26
S. Philip	1	1	3	10	15	30
Stapleton	—	1	1	—	2	8
Westbury-on-Trym ...	—	—	—	1	1	9
Municipal Institutions ..	1	2	4	2	9	—
Not belonging to City ...	4	1	3	1	9	—
Total ...	13	14	23	26	76	21

Enteric Fever is admitted for treatment into the Public Institutions, and 53 cases (9 from outside the City) were nursed in the Royal Infirmary and General Hospital through the year; 3 were treated by the Guardians. With the exception of 12 cases nursed at Clift House in 1897, no provision had been made for this disease in the City Hospitals before July, 1899, and cases, if not admitted to the general Hospitals, had to remain at home. There is still insufficient accommodation to meet any emergency, and this insufficiency has been considerably accentuated by the extension of the City and the consequent great increase in population, as well as by the undertaking to provide for the Guardians' cases. The inconvenience has been, of course, very little felt during the past year, but this absence of enteric fever cannot be depended upon to continue indefinitely.

Diphtheria—Membranous Croup.

During the 52 weeks of 1905, 1,008 cases were notified as Diphtheria, and 13 as Membranous Croup—a total of 1,021 under these two headings.

The number of deaths returned as due to Diphtheria was 56, and to Membranous Croup 3, or a total of 59 under the two headings, giving a case mortality from these causes of 5·7 per cent. The case mortality observed in 1894 was 39 per cent.; much of this difference is apparent only, as large numbers of very mild cases, which in 1894 would have escaped observation, are sought for now by systematic bacteriological examination: this causes the figures as to case mortality to be somewhat misleading.

The 59 deaths from Diphtheria and Membranous Croup correspond to a death-rate from these causes of 16 per 100,000 living, compared with a rate of 30 in 1904, of 35 in 1903, and of 54 in 1902. It is obvious that the epidemic intensity of this disease has worn itself out.

The Diphtheria rate (including Membranous Croup) for the 76 large towns in 1905 was 16.

Diphtheria (including Membranous Croup) for 16 years.

	1	2	3	4	5
Years	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per Cent.
1890*[2]	56	25	16	7	28·5
1891	70	31	16	7	22·8
1892	106	47	38	16	35·8
1893	141	59	53	23	37·5
1894	128	56	50	22	39·0
1895	165	69	34	14	20·6
1896	258	111	38	16	14·7
1897	205	88	36	15	24·7
1898*	217	68	44	13	20·2
1899	215	67	33	10	15 3
1900	512	157	103	31	21·1
1901	908	275	124	37	13·6
1902	1,109	325	189	54	17·0
1903	1,134	331	119	35	10·4
1904‡	1,051	305	105	30	9·9
1905	1,021	284	59	16	5·7

* Enlarged City. ‡ City again extended in 1904.

*[2] Notification commenced February 12th, 1890.

Diphtheria—Showing incidence of Cases and Deaths on the Sub-Districts of Bristol, 1905.

Incidence Rate per 100,000 Population.	Cases.	Registration Sub-District. — Population.	Deaths.	Death Rate per 100,000 Population.
505·1	223	Ashley 44,144	6	13·5
132·0	87	Bedminster 65,877	7	10·6
293·8	123	Bristol Central 41,864	3	7·1
188·9	84	Clifton 44,462	4	8·9
424·8	65	Knowle 15,302	2	13·0
185·5	118	S. George 63,612	13	20·4
174·7	85	S. Philip 48,639	7	14·3
691·4	167	Stapleton 24,151	14	57·9
315·3	33	Westbury-on-Trym 10,464	2	19·1
—	30	Arising in Municipal Institutions	1	—
—	6	Not belonging to Boro'	—	—
284·7	1021	**City** 358,515	59	16·4

Diphtheria—Notifications in each Quarter in the Sub-Districts of Bristol, 1905.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Ashley	33	19	32	139	223
Bedminster	31	16	29	11	87
Bristol Central	34	22	20	47	123
Clifton	32	13	7	32	84
Knowle	15	27	12	11	65
S. George	31	30	16	41	118
S. Philip	33	9	15	28	85
Stapleton	51	25	45	46	167
Westbury-on-Trym ..	7	7	13	6	33
Arising in Municipal Institutions	16	5	1	8	30
Not belonging to Boro'	3	..	..	3	6
CITY	286	173	190	372	1021

Diphtheria in Bristol since 1900.

(Full details are given in the Annual Report for each year).

1900 Virulent diphtheria introduced into Bristol south (Bedminster). Scattered, no special school incidence, extended to Totterdown, prevalence declining at end of year.

1901 In March, a school outbreak at Totterdown, controlled by special medical aid in school inspection, culture taking from contacts, isolation, and control of school attendance.

Redcliff invaded, apparently from Bedminster, school outbreak controlled with some difficulty.

Hotwells invaded. Avonmouth invaded.

1902 Early in February a sharp school invasion began, special medical assistance succeeded in promptly arresting the outbreak.

St. George invaded in same month, the Two Mile Hill School, with 1,100 scholars implicated. The school outbreak was got in hand, but the disease spread in the district. The medical assistance afforded was intermittent, and in each interval the disease gained headway, out-patient treatment was afforded for suspicious (Hofmann) cases, in addition to Hospital isolation for virulent cases.

1903 In the early part of the year the disease fluctuated between St. George and Bedminster, special medical aid, and out-patient treatment was afforded in both districts, and continued up to June, improvement followed.

In March a visitor started a fresh outbreak at Avonmouth, soon controlled. In August a visitor from London started an outbreak in a Charitable Institution, which caused trouble for some weeks.

In November the Chester Park Council Schools at Fishponds (Stapleton), were invaded: the school outbreak subsided, home infection by undetected cases kept the disease alive in the district, and it gained considerable hold.

1904 Continuance of the Fishponds outbreak up to the middle of the year, a special Report was presented in June: out-patient treatment was established as in the other districts, and through the autumn the outbreak declined. This district was more difficult to work than any other of the invaded areas, considerable opposition was offered, in consequence of which the district suffered heavily.

1905 Some continuance of Diphtheria was noted in Fishponds. Objection to throat or nose examination continued, in one case where this was refused the whole family subsequently suffered. But medical inspection was continued as efficiently as possible, and by the end of February considerable improvement had resulted.

In March, recrudescence occurred at Avonmouth in houses affected previously in 1900–1901, but was soon controlled.

In September Diphtheria appeared in two Horfield Schools, medical examination was instituted, the district generally co-operated in the measures, and in a few weeks the outbreak was under control.

In one school, out of 159 suspected persons examined amongst 13 school classes, 6 marked cases were found, in addition to several suspicious cases, which were referred for local treatment, which was in general secured by the private medical attendant. The importance of this kind of systematic medical examination is well shown by one instance :—" A child absent from school was visited at home, and an elder sister not attending school was found to be suffering from diphtheria. No doctor had been called in." Such an undiscovered case forms a focus of infection from which a recurring series of school cases may readily arise, leading to outbreaks lasting over many months : these " missed " cases are now recognised as the real causes of failure to control the spread of such personally spread diseases as Diphtheria or Scarlet fever, the unexplained persistence of which, in spite of isolation of known cases and in spite of disinfection, was formerly, for lack of accurate knowledge, put down to " insanitary conditions."

Comparative Table showing Diphtheria Mortality.

(From the Registrar General's Annual Summary.)

	Death Rates from Diphtheria per 100,000 Living.								
	10 years' Average, 1890-99,	1895-04	1899	1900	1901	1902	1903	1904	1905
*76 Towns ..	—	—	—	—	—	26	20	19	16
33 Towns ..	33	33	40	35	30	—	—	—	—
London	49	37	43	34	29	25	16	16	12
West Ham	51	56	61	50	62	46	26	15	26
Croydon	29	16	13	18	16	21	12	17	16
Brighton	20	29	50	58	51	28	26	12	4
Portsmouth ..	23	34	64	53	37	34	39	36	34
Plymouth	13	13	20	11	11	13	13	12	15
Bristol	**14**	**26**	**10**	**31**	**37**	**54**	**35**	**30**	**16**
Cardiff	40	45	33	42	46	52	20	18	13
Swansea	33	48	136	58	18	25	22	25	20
Wolverhampton	35	35	19	10	12	20	9	18	18
Birmingham ..	24	28	29	14	16	24	26	24	17
Norwich	21	16	35	10	26	9	11	7	20
Leicester	27	49	106	151	71	15	13	3	5
Nottingham ..	8	13	13	12	12	12	26	28	19
Derby	11	11	8	6	19	10	3	25	19
Birkenhead	23	25	21	9	25	24	10	24	28
Liverpool	20	25	34	26	27	30	23	27	21
Bolton	10	14	9	12	16	25	21	16	10
Manchester	21	18	15	18	24	21	24	17	20
Salford	34	34	34	41	63	33	38	49	36
Oldham	15	20	16	13	9	33	39	25	9
Burnley	26	36	23	19	40	45	20	12	19
Blackburn	12	27	53	65	49	17	20	8	24
Preston	12	18	33	38	15	24	18	20	16
Huddersfield ..	13	13	5	2	6	13	15	15	11
Halifax	15	14	15	13	17	8	9	16	26
Bradford	8	17	11	11	11	30	19	57	28
Leeds	23	33	78	59	40	21	15	10	10
Sheffield	29	43	128	126	64	27	9	11	13
Hull	12	19	12	8	17	35	31	25	30
Sunderland	7	11	6	15	20	10	21	18	20
Gateshead	13	11	8	5	11	10	10	12	16
Newcastle	18	17	13	14	15	10	17	22	19

* The Registrar General now gives the rates for 76 of the large towns, and these rates are no longer comparable with the previously given rates for the 33 largest towns.

Comparative Diphtheria Mortality—Rise of Diphtheria Prevalence in certain Towns.

This Comparative Table, from the Registrar-General's Annual Summary, shows very clearly that the Diphtheria mortality, which in Bristol during the decade 1890-99 yielded the low average rate of 14 per 100,000 living, and during 1899 yielded the still more satisfactory rate of 10, rose in 1900 to the high figure of 31 per 100,000, in 1901 to 37, and in 1902 to 54—a rate exceeding the average rate for the large towns (26 per 100,000), and more than five times that recorded in 1899. During 1903, the rate of mortality fell to 35, in 1904 to 30, and in 1905 to 16.

But the table also shows that Bristol has been by no means singular in suffering from a temporary prevalence of fatal Diphtheria. It has affected in similar manner many other Towns of acknowledged general healthiness, and tends to remain epidemic for three or four years, when it dies out apparently from exhaustion of soil. Its prevalence bears no constant relation to the "fever" mortality rate, which may be taken as generally indicating the "sanitary" condition of a district. Indeed, where the fever rate is high, the Diphtheria rate may be remarkably low; while an excessive mortality from Diphtheria may be co-existent with a low fever rate. It is noteworthy that in Bristol the disease has for the six years of its prevalence generally avoided the congested slum districts of the older City, while falling heavily upon the more recently built fringing added districts. A large proportion of these added districts consists of a working-class population, especially susceptible to Diphtheria, not because they are "insanitary," but largely because there is a preponderance of young and susceptible children of school ages amongst such a population.

Laboratory Examinations in Diphtheria and Enteric Fever.

	Diphtheria.	Enteric Fever.	Total.
1895	87	—	87
1896	206	—	206
1897*	379	254	633
1898	390	127	517
1899	485	290	775
1900	915	452	1,367
1901	2,527	425	2,952
1902	3,771	420	4,191
1903	5,545	240	5,785
1904*[2]	6,858	308	7,166
1905	6,469	161	6,630

* City enlarged in November, 1897.

*[2] City enlarged in October, 1904.

In November, 1902, this work, which had for seven years been voluntarily undertaken by the Medical Officer of Health, was transferred to Professor Kent, of the Bacteriological Laboratory, University College, Bristol.

BACTERIOLOGIST'S REPORT.

The total number of specimens examined during the year ending December 31st, 1905, exclusive of examinations made for Tubercle, was 6,686.

Of these, 6,530 were examined for Diphtheria. The Klebs-Loeffler bacillus was found to be present in free growth in 574, and in scanty growth in 822, making a total of 1,396 which showed this organism,

Hofmann's bacilius, unaccompanied by the Klebs-Loeffler organism, was found in 1,360 of the specimens examined.

Of the total number of specimens sent in to be examined for Diphtheria 3,768 gave negative results.

In a number of cases of clinical Diphtheria the Hofmann bacillus was the only organism found, whilst other throat affections, often described clinically as "severe," were associated with the presence of streptococci.

Of the specimens of blood examined for Enteric Fever 40 gave a positive reaction with Widal's serum test, whilst 116 gave a negative result.

The total number of specimens examined for Diphtheria and Enteric Fever was greater than in former years, whilst, in addition, a large number of specimens of sputum were submitted for examination for Tubercle Bacilli.

Some extra evidence has been collected in favour of the view that the Hofmann bacillus may under certain circumstances cause clinical symptoms of Diphtheria. These observations will be published in due course.

A. F. STANLEY KENT,
Clinical Research Laboratory,
University College, Bristol.

Cholera—Choleraic Diarrhœa.

No deaths occurred from this disease during 1905, and no cases were notified ; although it is not unusual during the late summer or autumn to have one or two fatal cases of acute Diarrhœa notified under this heading. The importance of this question is, in a Sea-port Town, to exclude the possibility of true Asiatic Cholera (*See Port Report*).

Plague.

No suspicious cases were introduced.

Diarrhœa—Infantile Diarrhœa.

The number of deaths returned as due to Diarrhœal diseases during the year was 169 compared with 206, 107, 165, 345, 348, and 134, fatal cases recorded in the previous six years. Of the 169 deaths 129 occurred in children under 1 year of age, 25 at ages 1 to 5, 1 at ages 15 to 25, 6 at ages 25 to 65, and 8 in persons aged 65 and upwards. These deaths give a Diarrhœal death-rate of 0·47 per 1,000 living.

The comparative rates here given, show that favourable conditions exist in this City.

Comparative Table showing Diarrhœa Mortality.

(From the Registrar General's Annual Summary).

	Death Rates from Diarrhœa per 100,000 living.								
	10 years' Average 1890-99.	10 years' Average 1895-1904.	1899	1900	1901	1902	1903	1904	1905
*76 Towns.	—	—	—	—	—	54	71	120	83
33 Towns.	96	—	121	94	123	—	—	—	—
London	74	84	93	78	87	54	64	104	73
West Ham...	89	139	155	130	195	85	111	208	159
Croydon	59	68	89	56	92	49	28	64	33
Brighton	81	81	156	76	89	39	40	43	37
Portsmouth .	95	118	176	85	165	80	59	108	86
Plymouth ...	73	89	101	97	82	45	49	102	80
Bristol	**63**	**64**	**111**	**53**	**45**	**38**	**28**	**51**	**36**
Cardiff	87	78	91	42	44	27	46	72	32
Swansea	42	54	71	58	44	49	48	77	46
Wolv'rh'mpt'n	137	143	151	139	116	78	90	165	128
Birmingham	123	139	167	121	147	71	111	176	83
Norwich	100	116	126	126	124	63	75	118	119
Leicester	152	135	136	134	132	59	60	131	93
Nottingham .	111	126	168	108	151	72	68	137	76
Derby	76	80	89	47	97	42	38	68	61
Birkenhead .	83	104	74	80	140	60	118	154	101
Liverpool ...	132	157	187	144	195	94	98	252	135
Bolton	138	130	164	115	141	39	90	94	105
Manchester .	129	141	183	139	185	53	89	137	115
Salford.....	154	165	197	141	191	64	98	166	121
Oldham	70	82	88	53	121	31	42	91	72
Burnley	134	167	179	122	183	59	140	201	137
Blackburn ..	131	115	97	101	158	40	52	81	64
Preston	211	185	230	167	182	144	103	143	132
Huddersfield	41	55	82	43	90	19	26	51	44
Halifax	32	38	47	23	47	21	16	34	25
Bradford ...	91	85	97	29	89	18	51	83	50
Leeds	109	109	94	105	144	60	63	99	79
Sheffield	135	150	158	152	211	56	127	135	152
Hull	145	162	146	168	180	41	125	208	128
Sunderland .	123	120	114	94	178	49	60	109	83
Gateshead ..	107	118	112	85	255	37	91	113	68
Newcastle ...	73	78	75	37	124	26	58	51	58

* The Registrar General now gives the rates for 76 of the large towns, and these rates are no longer comparable with the previously given rates for the 33 largest towns.

Erysipelas.

During the year 1905, 303 cases of Erysipelas were notified, and 8 deaths were returned, compared with 256 cases and 9 deaths in 1904. In house were cases were notified, various insanitary conditions were found to exist and were remedied, but I do not attach any special value to the notification of this disease.

Puerperal Fever.

Thirty cases of Puerperal Fever were notified, compared with 27 last year. Six cases proved fatal, compared with 23 in 1900, 17 in 1901, 17 in 1902, 14 in 1903, and 16 in 1904.

Typhus Fever.

One case of Typhus Fever was notified in the City during the year, but the diagnosis was not confirmed. This disease disappeared as an epidemic when Registration of Common Lodging Houses and control of gross insanitary conditions were taken in hand, in the sixties and seventies of last century.

Measles.

The deaths from Measles in the City in 1905 numbered 180 compared with 94 in 1904, 11 in 1903, 411 in 1902, with 7 in 1901, with 200 in 1900, 38 in 1899, 309 in 1898, 57 in 1897, with 143 in 1896, 8 in 1895, 116 in 1894, 25 in 1893, 105 in 1892, and 239 in 1891. These fluctuations are characteristic of Measles prevalence in large centres of population.

Of the 180 deaths, 168 occurred in children under 5, 11 between 5 and 15, and 1 between 15 and 25.

In the first quarter 57 deaths occurred, 51 in the second, 32 in the third, and 40 in the fourth quarter.

Measles is the cause of much mortality, and is very important in relation to school attendance,

No two authorities seem agreed upon the best measures for the repression of Measles epidemics, and the disease has up to the present risen and fallen in alternate years practically unchecked.

The difference in procedure is shown thus :—

School Closure. In 9 out of 67 towns no closure is attempted, in 10 it is only carried out when the attendance is seriously affected (i.e., too late to act as a preventive measure), in 24 the Infant Departments only are closed, in 13 the whole schools are closed at one or other stage of an epidemic.

Exclusion of Contacts. In 7 towns no action is taken.

Sunday Schools. In 25 towns nothing is done, in 18 closure is occasionally advised, in 18 it is advised as a routine proceeding. In Reading, Parliamentary powers have been obtained to close Sunday schools or private schools if necessary.

Notification. In England and Wales notification obtains in 55 towns and 21 rural districts, and has been given up in 54 districts after trial.

Disinfection is not carried out at all in many towns, and at the height of an epidemic could not be coped with without much extra assistance.

Of the deaths from Measles, 90 to 95 per cent. occur in children under 5 years of age ; it is most fatal in the second year of life, and the attack incidence is highest during the third, fourth, and fifth years.

The most effective method of many that have been tried, appears to be, if taken early, school examination ; or, later, a combination of school closure and house-to-house visitation, obviously requiring much extra assistance.

1. If Measles is due, but has not yet burst into epidemic form, careful class to class medical inspection of the Infant Departments may result in discovering many early cases ; this inspection must, however, be persevered in over some months.

2. If the epidemic has started in the school, the closing of the Infant Departments, followed by careful and persistent following up of cases by house-to-house visitation, advice, and disinfection, has proved most satisfactory in small districts ; in larger centres of population it is a counsel of perfection, which could only be ensured by the provision of a largely increased Staff—medical, inspectorial, and cleansing.

(See also Dr. Howard Jones' Paper, "The Control of Measles," Public Health, 1904).

A partial solution of the question is afforded by the following rules, adopted at Brighton by the Education Committee :—

A. "No scholar shall attend an infants' school from a "house where there is a case of Measles, German "Measles, Whooping Cough, Chicken Pox, or "Mumps ; but children in departments for older "children who have previously had the disease in "question, need not be excluded under similar "circumstances."

A similar rule has recently been adopted by the Bristol Education Committee.

B. The Education Committee at Brighton have also, on the advice of their Medical Officer of Health, issued instructions to the Head Teachers to *refuse admission to children under three years of age,* unless special permission for the admission of such

children has been given by the School Attendance (Parents') Sub-committee. The Education Committee also state that they *wish the attendance of children between three and four years of age to be discouraged.*

The general adoption of similar Rules in all Districts would not only benefit the children, who ought not to be subjected to school routine at these tender ages, but would also result in limiting the fatality of these diseases, which, though they are often looked upon as minor ailments, are terribly and persistently fatal amongst the younger elementary school children. The relative fatality for a period of 10 years in the City of Bristol from various diseases is here shown :—

	1896-1905. Deaths.
Diarrhœa	1842
Measles	1450
Whooping Cough	1056
Diphtheria	851
Enteric Fever	330
Scarlet Fever	369
Small-pox	12
Typhus Fever	0

The whole question is well summed up in the Report by Dr. Thomas on Measles, contained in Dr. Kerr's Report to the London County Council (Education Committee) for the year ending March 31, 1905 :—

> "Measles at present in London only spreads in "classes under 5 years of age, except in certain "better-class districts. Seventy-five per cent. of "children above 5 in Infants' Departments are "protected."

"Measles tends to spread whenever a class accumu-
"lates unprotected members to the extent of between
"30 per cent. and 40 per cent., and when spread has
"begun it continues until the proportion is reduced
"to between 15 per cent to 20 per cent. unprotected."

"If children under 5 were excluded from school,
"closure for Measles would not be necessary for
"some time in London, except in one or two special
"districts; if, however, this were successful in
"postponing attacks, the question would again
"become acute in a few years."

"To deal efficiently with Measles accurate
"knowledge is required; the measles history should
"be elicited for each child on admission to school.
"This should be done universally; if notification
"to School Authority was made compulsory on
"every parent whose children attended school, our
"hands would be greatly strengthened. Unless the
"amount of susceptible material is fairly accurately
"known for each school, we shall only be working in
"the dark as heretofore, and nothing of any value
"can be expected to accrue from our methods."

"To effect any useful purpose school closure
"must take place before the "first crop" falls.
"The old practice of waiting until the attendance
"fell to a certain limit was useless in arresting the
"spread of Measles, and did absolutely no good."

"The means of arresting spread of measles other
"than school closure are of enormous importance;
"to name two—sanitary buildings and training of
"teachers; these two factors probably have the
"greatest effect of all in determining the extent of
"spread of an outbreak."

"Deaths often occur from ignorance on the part
"of parents."

" Circulars should be sent out wherever measles
" has appeared in a class (i.e. on the incidence of
" the first case) begging mothers to notice colds,
" and upon the slightest suspicion of such symptoms
" to keep the child at home for a day or two. In
" this way measles would probably be checked to a
" far greater extent than has been effected by any
" other means."

" Measles never spreads in the Boys' and Girls'
" Departments. There is no need to exclude children
" from infected homes who attend the upper depart-
" ments. As a result of our enquiries, this has
" actually been carried out at Brighton, with satis-
" factory results."

" There is too great a tendency to look at things
" from an " attendance " standpoint ; this is one of
" the greatest evils with which we have to contend.
" The withdrawal by the Board of Education of
" Article 101, was the greatest piece of official folly
" ever perpetrated. If a whole department is closed
" the average attendance is not affected ; but if on the
" score of health a single class is closed by order of
" Sanitary Authority, or by the Council's Medical
" Officer, it is supposed that the attendances are
" missed, and the effect upon the average attendance
" and consequent grant is enormous. We thus have
" great difficulty in carrying out our measures, as
" much opposition is often encountered to the
" necessary closure of a single class, while the
" unnecessary closure of a whole department is gladly
" borne or even welcomed.

" This is an economic question which is not one
" of health at all ; and when attendance has fallen
" to a certain percentage at which the loss of grant

"is so severely affected, the department should be "automatically closed independently of the question "of health. This percentage ought to be worked "out."

Whooping Cough.

The deaths from Whooping Cough in the City numbered 123, compared with 110 in 1904, 65 in 1903, 105 in 1902, 189 in 1901, 54 in 1900, 118 in 1899, 110 in 1898, 118 in 1897, 64 in 1896, 45 in 1895, 177 in 1894, 80 in 1893, 154 in 1892, 53 in 1891, and 201 in 1890.

Fifty-two of the deaths occurred in children under 1, 69 at ages 1 to 5, and 2 at ages 5 to 15.

In the first quarter of the year 51 deaths occurred, 29 in the second, 17 in the third, and 26 in the last quarter of the year.

The disease was most fatal in St. Philip (41), Bedminster (32), Bristol Central (19), and S. George (15).

The mortality in this disease is largely due, as in the case of Measles, to the want of care exercised during the course of the illness, to avoid exposure to inclement weather. It bears a similar relation to school attendance to that noted in the case of Measles, and it is almost equally fatal at ages under 5.

Influenza.

This disease was credited with 54 deaths during 1905, compared with 27 in 1904, 33 in 1903, 56 in 1902, 65 in 1901, 53 in 1900, 119 in 1899, 57 in 1898, 40 in 1897, 19 in 1896, 95 in 1895, 26 in 1894, 68 in 1893, and 45 deaths during 1892.

Influenza was chiefly returned as a cause of death during the first quarter of the year, and the figures for the four quarters are 26, 10, 3, and 15 respectively.

TUBERCULOSIS.

Phthisis (Pulmonary Consumption).

The fatality of Pulmonary Phthisis, in comparison with that from the seven principal zymotic diseases is shown here for twelve years.

	1894	1895	1896	1897*	1898	1899	1900	1901	1902	1903	1904*2	1905
Phthsis	332	317	370	302	393	430	415	401	415	366	413	407
Seven Principal Zymotics ...	457	268	435	430	851	582	606	530	942	375	578	583

* City enlarged in November, 1897.

*2 City enlarged in October, 1904.

The Health Committee in 1899 authorized a systematic examination of the milk from all farms supplying the City; this was carried out by the inoculation test by Professor Délépine, of Manchester. Out of 74 samples examined, only 4 showed the presence of Tuberculosis. The samples were taken from the milk as brought into the City for delivery.

It was further recommended that all meat and milk contracts for the Hospitals under the control of the Health Committee be framed upon lines protective against Tuberculosis. This has been carried out in recent contracts.

The Bristol City Council, on the recommendation of the Health Committee, has made the following arrangements for dealing with consumption in the City :—

Winsley Sanatorium. They have contributed a sum of £5,000 towards the erection and equipment of the Winsley Sanatorium, and a further sum of £1,300 annually towards the maintenance of 20 beds, to be reserved at their disposal (Resolution of Council of 13th May, 1902,

and 8th Dec., 1903). The Sanatorium was opened in the early part of December, 1904. The first Bristol case was admitted on 27th February, 1905.

Notification. In September, 1903, the Council approved of the initiation of a voluntary system of notification of Phthisis. Leaflets containing "Precautions against Consumption" were distributed through the City, first by the S. John's Ambulance Brigade, later by the Health Committee, and Dettweiler Sputum Flasks have been supplied to deserving patients unable to afford the purchase; disinfecting solution for use in the flasks has also been gratuitously supplied.

Enquiries and Disinfection. Each week the deaths from "Consumption" are singled out from the death returns and entered upon special enquiry cards. The District Inspectors visit, make enquiries, and secure disinfection of the rooms or premises, and of any articles that need it.

Examination of Phthisical Sputum. The Bacteriological examination of Phthisical Sputum is provided free of cost, for Medical Practioners in regard to City cases.

Notification 1905.

Notification commenced on September 5th, 1905, and 330 cases, 196 Males and 134 Females, were notified up to the end of the year.

In 282 cases the patients were living at home, 35 were notified from Stapleton, and 10 from Eastville Workhouse 1 from the Children's Hospital, and 2 from the General Hospital.

In 225 cases the disease was reported as Phthisis of Lungs, in 61 cases as limited to the right lung, and in 44 as limited to the left lung.

79 Deaths took place among the 330 notified cases, 38 of males and 41 of females.

167 Laboratory Examinations of Sputum for Tubercle have been made during the year, of which 79 gave a positive result.

TABLE I.

Showing Occupation of 330 Notified Cases.

	Males.	Females.	Total.
Barbers, Hairdressers	3	—	3
Boots, Shoes, Leather, etc	27	5	32
Builders, Masons, Joiners, etc.	12	—	12
Butchers	2	—	2
Clerks	14	—	14
Cocoa	3	1	4
Comedian	1	—	1
Corset Makers	—	4	4
Cotton, Clothing, Tailoring, etc.	2	19	21
Domestic Servants	—	14	14
Drivers of Horses	13	—	13
Engineering, Iron Workers	10	—	10
Flour Mills	3	—	3
Home	4	43	47
Institution Cases	33	15	48
Labouring	27	—	27
No Information	5	—	5
No occupation	3	2	5
Painting, Decorating	5	—	5
Paper, Printing, Stationery	10	5	15
Police	1	—	1
Post Office	—	2	2
Programme Seller	—	1	1
Reservists	1	—	1
Rope Makers	2	—	2
School	—	15	15
Seamen	4	—	4
Shop Assistants	3	2	5
Teachers	4	—	4
Tobacco, Cigar, Cigarette	1	3	4
Travellers—Town	3	—	3
Waitresses, Barmaids	—	3	3
Totals	196	134	330

TABLE II.

Showing Housing Particulars of 330 Notified Cases.

No. of Cases.		No. of Rooms.
6	Cases lived in house of	2
7	,, ,, ,, ...	3
25	,, ,, ,, ...	4
41	,, ,, ,, ...	5
118	,, ,, ,, ...	6
10	,, ,, ,, ...	7
35	,, ,, ,, ...	8
9	,, ,, ,, ...	9
13	,, ,, ,, ...	10
1	,, ,, ,, ...	11
5	,, ,, ,, ...	12
1	,, ,, ,, ...	15
2	,, ,, ,, ...	16
9	,, No Information.	
48	,, Institutions.	
330	Total No. of Cases.	

Number of Persons in each Family Affected.

In 31	Cases family numbered	2	Persons
,, 40	,, ,, ,, ...	3	,,
,, 49	,, ,, ,, ...	4	,,
,, 47	,, ,, ,, ...	5	,,
,, 33	,, ,, ,, ...	6	,,
,, 23	,, ,, ,, ...	7	,,
,, 13	,, ,, ,, ...	8	,,
,, 5	,, ,, ,, ...	9	,,
,, 4	,, ,, ,, ...	10	,,
,, 1	,, ,, ,, ...	11	,,
,, 1	,, ,, ,, ...	12	,,
,, 35	,, No Information.		
,, 48	,, Institutions.		
330	Total No. of Cases.		

Eighteen Notices were given to abate Nuisances.

No. of Cases.	No. of Families occupying house.
169	One.
64	Two.
12	Three.
2	Four.
35	No Information.
48	Institutions.
330	Total No. of Cases.

CLEANLINESS.

No. of Cases.		How Reported.
In	88	House Reported Clean.
,,	171	House Fairly Clean.
,,	7	House Reported Dirty.
,,	16	No Information.
,,	48	Institutions.
	330	Total No. of Cases.

VENTILATION, DAMPNESS, REPAIR.

No. of Cases.		How Reported.
In	22	Reported as Good.
,,	240	Reported as Fair.
,,	3	Reported as Bad.
,,	17	No Information.
,,	48	Institutions.
	330	Total No. of Cases.

DRAINAGE.

No. of Cases.		How Reported.
In	71	Reported as good.
,,	172	Reported fairly good.
,,	14	Reported Defective.
,,	1	None in House.
,,	24	No Information.
,,	48	Institutions.
	330	Total No. of cases.

TABLE III.

Showing Notification No. and Relations.

Notification No.	Father.	Mother.	Husband.	Wife.	Brother.	Sister	Son.	Daughter.	Lodger.
8 M.								333	
23 M.					25	52			
73 M.				417					
114 M.					144				
195 F.			196						
233 M.								484	
248 F.							607		
296 F.						276			
311 M.						647			
305 M.									503
Total 10	—	—	1	1	2	3	1	2	1

SUMMARY.

In 9 Cases two members of family were notified.
In one case three members of family were notified.
In one of these a lodger is quoted as member of family.

TABLE IV.

Summary of other Information obtained in Notified Cases.

Animals and domestic pets were kept by ..... 25 cases.
Bedding and Clothing Disinfected of ..... 36 ,,
Disinfection carried out in ..... 49 ,,
Family History of Phthisis ..... 77 ,,
No Family History ..... 143 ,,
Milk was boiled before use in ..... 123 ,,
Milk was not boiled before use in ..... 117 ,,
Milk obtained from casual seller in ..... 82 ,,
Milk (Condensed) used in ..... 11 ,,
Milk regularly by own milk man ..... 226 ,,
Rooms were disinfected in ..... 49 ,,
Sputum Flask used in ..... 73 ,,
Sputum Flask not used in ..... 103 ,,
Water, Company's drunk by ..... 330 ,,

Enquiry into Deaths returned from Phthisis.

The 407 deaths returned during 1905 were also enquired into. The ages at death were :—

Under 1	1–5	5–15	15–25	25–65	65	All Ages
3	6	12	88	287	11	407

TABLE V.

Showing Occupations of 407 Fatal Cases.

	Males.	Females.	Total.
Barmen, Billiard Markers, etc.	2	—	2
Barbers, Hairdressers, etc	2	—	2
Butchers	3	—	3
Brush Makers	1	—	1
Baking Powder Factory	—	1	1
Boots, Shoes, Leather Workers	21	2	23
Chemists	1	—	1
Clerks	10	2	12
Clothing	6	17	23
Cocoa Factory	1	3	4
Confectionery	1	—	1
Corset Makers	—	2	2
Domestic Servants	—	28	28
Drivers of Horses	15	—	15
Farriers	1	—	1
Firemen	3	—	3
Gipsy	—	1	1
Hawkers	5	2	7
Home	7	84	91
Ice Cream Vendor	1	—	1
Insurance Agents	2	—	2
Iron Workers, Engineers	8	—	8
Joiners, Carpenters, etc.	12	—	12
Jewellers, Silversmiths, etc.	2	—	2
Labourers	50	—	50
Laundry Workers	1	2	3
Maltsters	1	—	1
Masons	4	—	4
Messenger Boys	2	—	2
Navy, Army, Reservists, etc.	3	—	3
No Occupation	7	20	27
Nurse	—	1	1
Paper, Printing, Stationery	8	9	17
Painters, Decorators	5	—	5
Pianists	—	1	1
Rag Sorters	1	—	1
Rope Maker	1	—	1
School	2	5	7
Seamen	11	—	11
Shop Assistants, etc.	7	—	7
Stage	1	1	2
Teachers	1	3	4
Tobacco, Cigars, Cigarettes	—	5	5
Travellers	3	—	3
Unknown	1	1	2
Veterinary Surgeon	1	—	1
Warehousemen	3	—	3
	217	190	407

TABLE VI.

Showing Housing Particulars of 407 Fatal Cases.

No. of Persons or Children in Family.

No. of Cases	43	Persons in Family	2
,,	59	,,	3
,,	60	,,	4
,,	41	,,	5
,,	32	,,	6
,,	22	,,	7
,,	13	,,	8
,,	5	,,	9
,,	3	,,	10
,,	2	,,	11
,,	1	,,	15
,,	93	Institutions.	
,,	19	No Information.	
,,	14	Lodgers.	
Total No. of Cases	407		

No. of Families in House.

In 204 Cases one family in house.
,, 76 ,, two ,,
,, 12 ,, three ,,
,, 2 ,, four ,,
,, 93 ,, Institutions.
,, 20 ,, No Information.

407 Total No. of Cases.

Condition of House.

103 Cases were reported clean.
75 Cases were reported fairly clean
21 Cases were reported dirty.
93 Institution.
15 No Information.

407 Total No. of Cases.

56 Cases, Dampness, Vent, Repairs, reported good.
237 Cases, Dampness, Vent, Repairs, reported fair.
7 Cases, Dampness, Vent, Repairs, reported bad.
93 Institutions.
14 No Information.

407 Total No. of Cases.

81 Cases, drainage reported good.
202 Cases drainage reported fairly good.
10 Cases, drainage reported defective.
93 Institutions.
21 No Information.

407 Total No. of Cases.
18 Notices were (given) issued).

In 67 cases a history of " Consumption in the family ' was obtained : in 138 cases all milk was boiled before use. Disinfection of bedding and clothing was secured in 134 cases, and 218 the rooms occupied by the patients were disinfected by spraying.

WINSLEY SANATORIUM.

City Maintained Beds, 1905.

During the year 114 Males and 57 Females made application.

The ages of these 171 applicants were 1 under 5; 6 under 15; 54 under 25; 110 under 65.

Admitted to the Sanatorium 39 Males, 26 Females. Total 65.

Discharged from Sanatorium 25 Males, 20 Females. Total 45.

The following Table shows how these 171 applications were dealt with.

No.	How disposed of.
65 ..	"Selected" and "Admitted."
50 ..	Not accepted by Committee.
16 ..	Rejected by Medical Consultative Board as "not suitable."
23 ..	Withdrawn.
1 ..	Too young (rejected as).
2 ..	Outside Boundary.
9 ..	Waiting admission on 30th December, 1905
5 ..	In reserve.
171	Total.

Condition stated upon discharge.

28	Discharged much improved.
11	Discharged little improved.
6	Discharged not improved.
45	Total.

I am, my Lord Mayor and Gentlemen,

Your obedient Servant,

D. S. DAVIES, M.D.,
Medical Officer of Health.

ISOLATION HOSPITAL ACCOMMODATION.

When the Health Committee came into existence in 1897—the Sanitary Committee handed over the first instalment of 76 permanent isolation beds at Ham Green, in a state of practical completion. This portion had been built by the Sanitary Committee, not by the Health Committee, and was opened in 1899. In 1897 the City, which had recently been extended, contained a population numbering 316,900.

The isolation of cases for infectious illness had previously been left in the hands of the Guardians (except for the provision of two wooden hut hospitals for 24 beds, in S. Philip's Marsh), until events, culminating in the definite revolt of the Barton Regis Guardians during a Smallpox outbreak in 1893–94, forced the care of such cases upon the Sanitary Authority. This precipitated the erection of 3 more temporary wooden Blocks upon the Novers Hill site, which had just been acquired from the Bedminster Guardians. These wooden Hospitals are expensive to maintain and never quite as efficient as permanent buildings.

Thus the Health Committee came into possession of the following isolation beds—reckoning at 2,000 cubic feet per bed :—Ham Green, 76, Permanent (Fever only). Novers Hill, 35 (Fever and Smallpox), 8 in permanent buildings, the rest in temporary buildings. S. Philip's Marsh (temporary), 12, Closed. Stapleton (temporary), 12, Handed over to Guardians. S. George (temporary), 6, use discontinued. Clift House (temporary), 21, Diphtheria only since 1900.

In addition, the Port Sanitary Committee came into possession of :—Avonmouth Hospital, 12, Destroyed for dock purposes. Ship Hospital, 12, Intended for port cases, but largely used as a relief hospital for the City.

The recognised number of isolation beds necessary for the effectual protection of a large urban manufacturing centre against the inroads of communicable disease is 1 bed per 1,000 of the population. Thus the city alone (exclusive of Port) should command the use of 358 beds, as the City has increased in 1905 to 358,000.

The addition of 58 permanent beds in 1905 brings up the number of beds at Ham Green to 134 at the full cubic space of 2,000 ft. per bed.

We thus find the available beds in the city amount to 190, distributed thus :—

Ham Green.....	134
Novers Hill.....	35
Clift House.....	21
	190
To which add Port beds.....	12
	202

That is to say, the number available, including temporary and borrowed accommodation, for the city, does not equal the minimum requirement of the old city previous to the first extension in 1897, and leaves the added population of 120,000 persons, unprovided for.

A comparison with the five other largest provincial towns of England will show how Bristol stands in the matter of Isolation Hospital accommodation :—

	Population 1903.	No. of City Hospital Beds.
Liverpool	716,810	925*
Manchester	553,486	560
Birmingham	533,039	809
Leeds	443,559	540
Sheffield	425,528	424
BRISTOL	338,895	190†

* Shortly to be increased to 1,200.

† 21 temporary, Clift House, 27 in wooden buildings, Novers Hill

Many of the smaller towns possess more adequate accommodation than Bristol, for example, Hull (249,639 —1903) has 292 beds, and Newcastle-upon-Tyne (222,241 —1903) has 281 beds in all, and retains 100 beds for Smallpox contacts.

Bristol has no beds always available for Smallpox, except 12 at Novers Hill, the use of which at once involves disorganisation of the hospital, as the rest of the beds are constantly needed to eke out the scanty fever accommodation in the city.

Under such circumstances considerable difficulties arise in administering and allotting the small number of bed available, so as to fulfil the primary end of hospital accommodation—viz., the limitation of the spread of disease by isolation of those persons placed in such circumstances that they can by no effort secure isolation at home. Success has been attained, it is true, beyond the success of most towns, in dealing with Smallpox, but this is due to experience and discretion in control of the disease, and in use of the available beds. The position is not, however, depending as it does upon the personal factor, a safe one for the city.

It is obvious too, that the criticism which has been passed to the effect that, in spite of constant increase in hospitals, disease seems to be as prevalent as ever, is ill founded.

The hospital accommodation has been increased to some extent it is true, but the population has been increased also in far greater excess than the hospital beds, and the added population has proved itself most susceptible (chiefly from the large number of children at school ages) to the spread of the common infectious diseases. The question has nothing to do with "sanitary" condition of the districts, but rather with the age-constitution, and school conditions of the districts.

In regard to the prevention of Scarlet Fever, for example, the undue addition of fresh population has given no honest chance of gauging the effect of hospitals in checking the spread of disease, because under pressure of an outbreak a large number of patients have still to be left at home under circumstances where isolation is impossible, and this at once vitiates any chance of effectual control.

Unfortunately, also, it is impossible to exclude many cases in which isolation is possible at home, at the cost of some trouble ; the admission of such cases does little, if any good, in preventing the spread of disease, and uses up beds which might be more profitably employed. Scarlet Fever patients do equally well at home if they can be kept in a separate room under ordinary medical care and nursing.

The temporary Iron Hospital at Southmead for 21 beds represents the accommodation provided for 13,000 persons recently added to the City. This is not now available.

For some years the policy of the Committee has been to secure concentration of work, gradually abolishing the small and inefficient temporary hospitals, so that all isolation work for the City may finally be carried out in two hospitals only—Ham Green and Novers Hill.

But, considering the nature of the population recently added in the vicinity of Avonmouth, and their proved susceptibility to the introduction of disease, I advise that these 21 beds should be replaced by an equal number of permanent beds at Novers Hill Hospital.

My advice with regard to Clift House is similar ; the provision for Diphtheria here has proved invaluable, and the added districts, which have fed it almost exclusively for two years, need the continuance of the provision ; as soon as corresponding beds are provided, the use of this site may be discontinued.

The impression that the Health Committee has an insatiable craving for added hospital accommodation is a most inaccurate one ; it must be remembered that the Corporation, relying upon the complaisant attitude of the Guardians, took no steps till very late in the day, long after most of the other large towns had taken action, and that, when the Guardians finally threw the onus of provision upon them, the accommodation previously afforded by the Guardians had to be made good, in addition to the imperative needs of the newly-added crowded areas, containing a population of considerably over 100,000 persons, and destitute of proper isolation Hospitals. This has not yet been fully done.

Extension of the City should be met by adequate pro rata hospital provision ; the need for more hospitals arises out of the extension of the City population.

Also, it is clearly to be seen that no other large town of anything like equal importance with Bristol ventures to rely upon such inefficient equipment of isolation hospital accommodation.

D. S. DAVIES, M.D.,
General Medical Superintendent, City Hospitals.

CITY HOSPITAL, HAM GREEN, BRISTOL.

Report of the Resident Medical Officer for the Year 1905.

To The Members of the Committee of Management.

Gentlemen.

I have the honour to submit to you the Seventh Annual Report, dealing with the work of the above Hospital, for the statistical year ending December 30th, 1905.

There were 86 patients in Hospital at the beginning of the year, 817 patients were admitted, 721 discharged well, and 34 died, thus leaving 148 patients in Hospital at the end of the year.

The admissions numbered 98 more than in the preceding year.

The average daily number of patients in Hospital was 119·3 which is much higher than in the preceding year. The highest daily number was 174, on November 14th, and the lowest 80 on May 13th.

The average length of stay in Hospital of patients who recovered was 53·2 days, of fatal cases, 15·6 days.

The average death-rate among the patients for all diseases was 4·5 per cent.; four deaths occurred within 48 hours of admission to Hospital, if these be excluded, the corrected mortality rate becomes 3·9 per cent.

Statistical tables are appended, showing the diseases treated, mortality rates, complications observed, and other particulars.

SCARLET FEVER.

55 cases were in Hospital at the beginning of the year ; 476 cases were admitted (including one case sent in as Diphtheria), 426 cases were discharged well, and 16 died, thus leaving 89 cases in Hospital at the end of the year.

Removal to Hospital was effected in 83 per cent. of the cases during the first week of the illness, compared with 70 per cent. last year ; this is a great advantage in confirming or correcting diagnosis, and also from the point of view of prevention.

Age Incidence.—Of the patients admitted 27·4 per cent were under 5, 46·7 per cent. between 5 and 10, 15·9 per cent. between 10 and 15, and 10 per cent. over 15 years of age.

The average length of stay in Hospital of patients who recovered was 51·7 days ; of fatal cases 15. The longest stay of any one patient was 135 days, though 12 other patients were in Hospital over 100 days.

The chief causes of long detention in Hospital were Rhinorrhœa, Otorrhœa, and Tardy Desquamation.

Fatality Rate.—Calculated on the discharges, the fatality rate was 3·6 per cent., the rate being rather higher among males than females. One death was accelerated by the shock of previous burns, and another by chronic heart disease.

Of the deaths 50 per cent. occurred in patients under 5, 75 per cent. in patients under 10, and 25 per cent. in patients over 10 years of age.

Symptoms and Diagnosis.—The type of the disease was rather more severe than the preceding year. About 88 per cent. of the patients suffered from Scarlatina Simplex, 11 per cent. from Scarlatina anginosa, and not quite 1 per cent. from Scarlatina Maligna. Nine patients with indefinite symptoms on admission developed later distinct Scarlatinal attacks ; eight other cases remained extremely doubtful throughout.

One patient notified as diphtheria, was found to be suffering from Scarlet Fever; and nine other cases notified as Scarlet Fever, five were cases of Measles, three German Measles, and one a case of Burns only.

This gives an absolute *error in diagnosis* of 3·7 per cent., and a probable error of 5·4 per cent.

Three Scarlet Fever patients were on admission also suffering from distinct Pharyngeal Diphtheria, and in 21 other patients Diphtheria Bacilli were found in the nose; the detection of such cases as these is the keynote in the prevention of Post-Scarlatinal Diphtheria.

Cause of Death.—Of the deaths 19 resulted from Toxæmia and Syncope, and six from complications, viz.: 2 from Meningitis, one from Toxæmia and Burns, and one each from Pulmonary Embolism, Acute Endocarditis, and Malignant Relapse. The last case is one of extreme rarity, and is the only instance of this condition I have met with in 11 years Fever Hospital experience.

Complications, Rhinorrhœa was marked in 36 cases *Otorrhœa* occurred in 95 cases, in 32 of these the right, in 34 the left, and in 29 both ears were affected.

Cervical Adenitis was severe in 20 patients, and in 12 of these Abscess supervened. Cellulitis of the neck occurred twice.

Severe *Aphthous Stomatitis* occurred in five cases. *Albuminuria*, variable in duration and occurring chiefly during convalescence was found in 24 cases. True *Nephritis* was noted in eight patients. *Scarlatinal Rheumatism* was marked in eight cases, in four of which heart mischief resulted. *Bronchitis* occurred in four cases and *Broncho-Pneumonia* in eight.

Meningitis was the cause of death in two patients. *Purpura Hæmorrhagica* and *Mastoid Abscess* were found in three cases each. Four distinct cases of *Relapse*

occurred on the 18th, 25th, 27th and 30th days of the disease respectively, one of these was malignant in nature and ended fatally. One patient developed an attack of Facial Erysipelas three days after admission, and another as the result of a fall during convalescence, developed Erysipelas of the left leg.

Sequelæ.—One patient was discharged with slight Chronic Kidney disease and another with slight Otorrhœa.

"Return Cases."—Infection was apparently carried home in the case of nine patients out of a total of 435 discharges, giving a "return case" rate of 2 per cent. The average length of stay in Hospital of the infecting case was 51 days, and the average interval between the return home of the patient and the "return case" 4·5 days. Of the infecting patients seven had uncomplicated attacks, whilst the other two suffered from Otorrhœa, which had thoroughly cleared up at least a week before discharge.

DIPHTHERIA.

31 cases were in Hospital at the beginning of the year; 310 were admitted, 271 were discharged well, and 13 died, thus leaving 57 patients in Hospital at the end of the year.

Removal to Hospital was effected in 82 per cent. of the cases, where a definite history of onset could be ascertained, during the first week of the illness, as compared with 77 per cent. in 1904; this is of great importance as securing the early injection of antitoxm, and of local treatment.

The average day of the disease on admission in cases which proved fatal was the 5th.

The Diphtheria Bacillus was found before admission in 289 out of the 310 cases notified as Diphtheria; of the other 21, in 10 no culture was taken, in 6 the culture was negative, and in 5 the culture contained suspicious organisms.

Age Incidence.—Of the patients admitted, 25·1 per cent. were under 5 years of age, 40·6 per cent. between 5 and 10, 22·5 per cent. between 10 and 15, and 11·8 per cent. over 15.

The average length of stay in Hospital of cases which recovered was 50 days, of fatal cases 11 days. The longest stay of any one patient was 154 days, though 13 other patients were in Hospital over 100 days.

Paralysis of various parts and the persistence of the organism in the nose, throat, or ear, were chiefly responsible for the long detention.

Fatality Rate.—Calculated on the discharges, the fatality rate was 4·5 per cent. Four deaths occurred within 30 hours of admission ; if these be excluded the rate becomes 3·2 per cent. The death rate was almost the same in both sexes. 54 per cent. of the deaths occurred in patients under 5, 84·6 per cent. in patients under 10, and 15·4 per cent. in patients over 10 years of age.

As many of the most urgent cases are not admitted to this Hospital, and a large number of patients harbouring the Diphtheria Bacillus but with few clinical symptoms were received for treatment, the above fatality rate is somewhat flattering ; accordingly the cases have been divided into two classes :—

1.—165 cases with marked clinical symptoms, in which the fatality rate was 7·3 per cent.

2.—106 cases, chiefly of the nasal variety, in which the fatality rate was nil.

Symptoms and Diagnosis.—The disease was confirmed bacteriologically before admission in 289 cases of the 310 notified as Diphtheria.

Of ten cases in which no culture was taken 7 were clinically Diphtheria, and 3 very doubtful.

Of 6 cases in which the culture was negative, 4 were clinically Diphtheria and 2 were doubtful.

Five cases in which the culture was suspicious, were very doubtful.

The seat of the disease in the 300 cases was as follows :—

Throat	183
Nose	73
Nose and Throat..	29
Nose, Throat and Larynx ..	6
Throat and Larynx	5
Throat and Eye	1
Throat and Lip	1
Nose and Ear	1
Ear	1
Total	300

The large percentage of cases in which the nose was found affected before admission, viz. : 36·3 is well worthy of mention ; in 28 throat cases the Diphtheria Bacillus was subsequently found in the nose.

Early Albuminuria was present in 47 per cent. of the clinical cases.

Marked irregularity of the pulse in force and frequency during convalescence and necessitating treatment was observed in 25 per cent. of the cases.

Cause of Death.—Of the deaths 12 were due to Toxæmia and Syncope, and 1 to Palatal and Diaphragmatic Paralysis. These figures emphasize the need for very early injection of antitoxin in order to avert a fatal result.

Complications.—Severe Adenitis was noted in 12 cases, Cellulitis of the neck in 4, and Cervical Abscess in 1 case.

Otorrhœa occurred in 7 cases, in 4 of which the Diphtheria Bacillus was found in the discharge.

Rhinorrhœa, generally purulent and at times sanious, was marked in 21 cases.

Epistaxis was severe in 12 cases, and in 5 troublesome vomiting occurred.

Broncho-pneumonia was noted in 2, and Bronchitis in 3 cases.

Nephritis occurred in one fatal case.

The following Paralyses were also observed : Soft Palate in 33 cases, Ciliary Muscle in 9, Ocular Muscles in 6, Skeletal Muscle in 3, Diaphragm in one, Ptosis in 2, and Aphonia in 6.

Treatment.—Active local antiseptic treatment was carried out in all cases.

Antitoxin was injected into 150 of the 310 patients admitted in doses varying with the severity of the case. Patients with no clinical symptoms or signs had no Antitoxin unless they were being nursed alongside acute cases.

An Antitoxin Rash was observed in 33 of the clinical cases, or in 22 per cent. of the injected patients : in one case the rash was accompanied by rise of temperature and joint pain.

17 of the patients had received some Antitoxin before admission.

Tracheotomy was performed in 2 cases, but both ended fatally.

The good effects of Antitoxin were well marked in cases injected early : many cases would have undoubtedly succumbed but for its use.

No patient was discharged until free from all cachexia, and until at least one culture taken 36 hours after the cessation of antiseptic treatment was found to be negative.

During the year 1,413 bacteriological examinations were performed from cases or suspected cases of Diphtheria, of which 63 were done at the Hospital, and 1,350 at the University College Laboratory.

MIXED INFECTIONS.

A large number of patients during the year were found to be suffering from more than one disease, or were incubating a second disease on admission : these cases taxed to the full the isolation capacity of the Hospital and as one would naturally expect were a source of danger to other patients.

The average length of stay in Hospital of such cases was 88·5 days, of fatal cases 33 days. The longest stay of any one patient was 187 days.

The cases are divided into three groups :—

Group 1.—*Cases notified and admitted as suffering from two diseases.*

Four patients had Diphtheria and Whooping Cough, and one Scarlet Fever and Whooping Cough on adission, the latter case and one of the former ending fatally.

Group 2.—*Cases which were found on admission or shortly afterwards to be suffering from a second disease also, the infection of which was received before admission.*

Four patients sent in as cases of Diphtheria were found to be suffering from Scarlet Fever, but harbouring the Diphtheria Bacillus in nose or throat.

Twenty-one Scarlet Fever patients were suffering from mild Nasal Diphtheria and three from true Faucial Diphtheria on admission.

Nine Scarlet Fever patients and one Diphtheria were suffering from Chicken Pox also on admission, and one Scarlet Fever and two Diphtheria patients from Whooping Cough.

It is satisfactory to note that no patient was infected by the admission of the above cases, as they were at once isolated.

Cases, however, which are incubating a second disease on admission, may give rise to others before it is diagnosable. Four Scarlet Fever patients and one Diphtheria were incubating Whooping Cough on admission, but no further cases occurred. One Scarlet Fever patient was incubating Chicken Pox on admission and later gave rise to 9 other cases. Three Scarlet Fever patients were incubating Measles on admission, and later gave rise to 13 other cases : one of the primary and one of the secondary cases ending fatally.

Group 3.—*Cases which received the infection of a second disease whilst in Hospital.*

Nine Scarlet Fever patients contracted Chicken Pox ; 13 Scarlet Patients contracted Measles.

The above facts will give some idea of the difficulties of Fever Hospital administration. (vide also " Other Diseases.")

OTHER DISEASES.

Of 9 patients notified as cases of Scarlet Fever, 5 were suffering from Measles, 3 from German Measles, and one from Burns only, the latter ending fatally. Of 2 patients notified as cases of Diphtheria, one was suffering from Cancrum Oris and the other from Pneumonia. One patient admitted from a ship for observation (? Plague) was suffering from Gonorrhœal Bubo. All the above patients needed strict isolation, the *average length of stay* in Hospital being 25·2 days.

ENTERIC FEVER.

No cases were admitted during the year. The number of cases in the City was so small that the Royal Infirmary and General Hospital were glad to admit for teaching purposes all cases needing isolation.

Vaccination Statistics.

All patients were examined on admission as to their state of Vaccination with the following results :—

Unvaccinated	171
No mark, but said to have been Vaccinated	3
One Mark	228
Two Marks	195
Three Marks	128
Four or more Marks	92
Total	817

Thus of 817 patients examined 20·9 per cent. were unvaccinated, whilst of those Vaccinated 35·7 per cent. had not more than one mark, 65·9 per cent. had not more than two marks, 85·7 per cent. had not more than three marks, and only 14·2 per cent. had four marks as prescribed by the Local Government Board. In 70 out of 228 patients who had only one mark, the Cicatrix was very small and poorly foveated.

Re-Vaccination was found to have been performed on 29 patients.

Staff Illnesses.

Five Nurses and one Maid contracted Scarlet Eever. Five Nurses contracted Diphtheria. One Nurse suffered from Axillary Adenitis and Cellulitis, and another from Gastric Ulcer. One Maid suffered from Pneumonia, and another from Perforated Gastric Ulcer whilst away from Hospital, the latter unfortunately ending fatally.

Other minor illnesses occurred during the year. The total loss of service in time entailed by illness of all kinds amounted to 935 days or rather more than $2\frac{1}{2}$ years.

General.

I have again throughout the year noted all cases of Pediculosis occurring among patients admitted, with the following results :—Out of 817 Males and Females

examined, 355 or 43·4 per cent. had nits or lice or both in their hair, which required active treatment and in many cases necessitated cropping the hair ; but whilst 33 per cent. of the Males' heads were dirty, 54 per cent. of the Females' were found so.

During the year 21,126 articles of clothing were disinfected by steam by the Hospital Disinfector.

The Observation Pavilion has proved of great service in dealing with cases of Mixed Infections and diseases other than Scarlet Fever or Diphtheria.

The Discharge Block has been used throughout the the year for the discharge of all Scarlet Fever patients, but a good deal of delay has been occasioned, through not having it duplicated for the two sexes.

There is need also for more administrative accommodation for the proper housing of the Female Staffs.

Two *post-mortems* were performed during the year to confirm the cause of death.

In conclusion I beg to acknowledge the services rendered by the Matron (Miss Garden), and the good work done by the Nursing and Working Staffs.

I am, Gentlemen,

Your obedient Servant,

JAMES FLETCHER, M.D., D.P.H.

HAM GREEN HOSPITAL.

TABLE I.

Admissions and Discharges during 1905, with the number of Patients in Hospital at the beginning and end of year.

Disease.	Remaining in Hospital at end of year 1904		Admitted.		DISCHARGED.				Remaining in Hospital at end of Year 1905.	
					Recovered.		Died.			
	M	F	M	F	M	F	M	F	M	F
Scarlet Fever	27	28	206	270	182	244	8	8	43	46
Diphtheria	13	18	141	169	124	147	6	7	24	33
Mixed Infections	—	—	10	9	7	7	2	2	1	—
Other Diseases	—	—	7	5	7	3	—	1	—	1
Totals	40	46	364	453	320	401	16	18	68	80
	86		817		721		34		148	

HAM GREEN HOSPITAL.

TABLE II.

Monthly admissions and average daily number in Hospital.

	Scarlet Fever.		Diphtheria.		Mixed Infections.		Other Diseases.		Average Daily No. in Hospital in each Month.
January ...	28		41		3		0		108·3
February ..	24	91	38	98	2	5	2	3	112·1
March ...	39		19		0		1		111·2
April ...	30		3		1		0		101·9
May ...	32	108	12	34	0	4	1	1	88·7
June ...	46		19		3		0		98·4
July ...	41		48		2		0		132·4
August ...	18	100	18	85	0	3	1	1	120·8
September ...	41		19		1		0		95·2
October ...	78		39		2		3		138·8
November	54	177	16	93	5	7	2	7	163·2
December ...	45		38		0		2		164·1
Year 1905	476		310		19		12		119·3

HAM GREEN HOSPITAL.

TABLE III.

Showing Ages and Sexes of Patients Discharged during the year 1905 with the Fatality Rate.

Scarlet Fever.									
	MALE.			FEMALE.			TOTAL.		
Age.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.
0–1 ..	1	...	...	0	...	...	1	...	.
1–2 .	7	..	..	5	..		12	...	...
2–3 ...	9	4	30·7	11	1	8·3	20	5	20·0
3–4 ...	16	..	..	23	1	4.1	39	1	2·5
4–5 ...	22	1	4·3	23	1	4·1	45	2	4·2
5–6 ...	19	...	...	31	1	3·1	50	1	1·9
6–7	17	1	5·5	23	...	...	40	1	2·4
7–8 ...	16	...	..	29	...	...	45	..	..
8–9 ...	14	...	...	15	1	6·2	29	1	3·3
9–10 ...	19	...	..	16	1	5·8	35	1	2·7
10–15 ...	30	1	3·2	38	2	5·0	68	3	4·2
15–20 ...	9	1	10·0	16	...	...	25	1	3·8
Over 20 ...	3	..	...	14	...	...	17	...	...
Totals...	182	8	4·2	244	8	3·1	426	16	3·6

Diphtheria.									
	MALE.			FEMALE.			TOTAL.		
Age.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.
0–1 ...	2	...	...	2	...	...	4	...	...
1–2 ...	4	..	...	4	1	20 0	8	1	11·1
2–3 ...	7	3	30·0	6	1	14·2	13	4	23·5
3–4 ...	7	1	12·5	9	1	10·0	16	2	11·1
4–5 ...	14	..	...	13	...	...	27	...	...
5–6 ...	9	...	...	18	...	...	27	...	...
6–7 ...	16	...	...	7	...	...	23	...	...
7–8 ...	12	...	...	9	2	18·1	21	2	8·6
8–9 ...	3	1	25·0	13	...	...	16	1	5·8
9–10 ..	11	1	8·3	12	..	...	23	1	4·1
10–15 ...	31	...	...	30	2	6·2	61	2	3·1
15–20 ...	5	...	...	12	...	...	17	..	...
Over 20 ...	3	...	...	12	...	...	15	...	...
Totals .	124	6	4·6	147	7	4·5	271	13	4·5

HAM GREEN HOSPITAL.

TABLE IV.

The Stage of the Disease when Patients were admitted to Hospital.

Disease.	DAYS OF 1ST WEEK.							WEEK OF ILLNESS.				
	1	2	3	4	5	6	7	1st	2nd	3rd	4th & over.	Total.
Scarlet Fever	—	24	59	113	119	50	30	395	65	11	5	**476**
Diphtheria	—	2	17	48	60	30	20	177	35	2	1	**215**

TABLE V.

Complications observed in Patients discharged during 1905.

Scarlet Fever.

	Otorrhœa.	Rhinorrhœa	Albuminuria	Adenitis.	Bronchitis.	Nephritis.	Pneumonia.	Arthritis.	Cervical Abscess.	Carditis.	Cellulitis.	Relapse.	Meningitis.	Pupura.	Mastoid Abscess.	Aphthous Stomatitis.
In 426 non-fatal cases	90	34	21	15	2	8	5	8	10	3	1	3	...	2	2	4
In 16 fatal cases ...	5	2	3	5	2	...	2	...	2	1	1	1	2	1	1	1
Total 442 cases ...	**95**	**36**	**24**	**20**	**4**	**8**	**7**	**8**	**12**	**4**	**2**	**4**	**2**	**3**	**3**	**5**
Percentage	21·4	8·1	5·4	4·5	0·9	1·8	1·5	1·8	2·7	0·9	0·4	0·9	0·4	0·6	0·6	1·1

Diphtheria.

	Paralysis.	Severe Vomiting.	Otorrhœa.	Adenitis.	Epistaxis.	Pneumonia.	Cellulitis.	Abscess.	Bronchitis.	Relapse.	Nephritis.	Rhinorrhœa
In 165 non-fatal cases	54	1	7	6	6	2	2	1	3	2	...	14
In 13 fatal cases	3	4	...	6	6	...	2	...	...	...	1	7
Total 178 cases	**57**	**5**	**7**	**12**	**12**	**2**	**4**	**1**	**3**	**2**	**1**	**21**
Percentage	32·0	2·8	3·9	6·7	6·7	1·1	2·2	0·5	1·6	1·1	0·5	11·7

HAM GREEN HOSPITAL.

Statistics for each Year since opening of Hospital.

TABLE VI.

Admissions Classified according to DISEASE.

YEAR.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Mixed Infections.	Other Diseases.	TOTAL.
1899 (From July 24th)	194	4	21	...	7	226
1900	571	70	38	..	...	679
1901	452	27	44	...	4	527
1902	536	128	42	21	...	727
1903	370	323	11	11	...	715
1904	374	317	26	2	...	719
1905	476	310	...	19	12	817
Totals	2,973	1,179	182	53	23	4,410

Discharges and Deaths.

YEAR.	Scarlet Fever.		Diphtheria.		Enteric Fever.		Mixed Infections and other Diseases.	
	Discharges.	Deaths.	Discharges.	Deaths.	Discharges.	Deaths.	Discharges.	Deaths.
1899 From July 24)	127	5	3	...	3	...	5	...
1900	485	15	50	12	33	1	...	...
1901	452	10	34	1	39	5	...	..
1902	540	11	67	14	33	4	18	2
1903	377	4	308	17	17	2	12	...
1904	326	7	310	20	24	2	2	...
1905	426	16	271	13	...	...	25	5
Totals	2,733	68	1,043	77	149	14	62	7
Average Fatality per cent.	2·4		6·8		8·5		10·1	

BRISTOL CITY HOSPITALS.

Novers Hill Hospital.

MEDICAL ATTENDANT'S REPORT FOR THE STATISTICAL YEAR ENDING DECEMBER 30TH, 1905.

Scarlet Fever.

Patients remaining from 1904	.. ..	29	155
,, Admitted	.. .. ..	126	
,, Discharged	.. .. ..	98	155
,, Transferred to Ham Green	..	12	
,, Died ..	.. .. ..	8	
,, Remaining	.. .. ..	37	

One patient admitted was a member of the nursing staff, and contracted the disease in performance of her duties.

Small-pox.

Fifteen patients were admitted during the year, 2 admitted for observation as suspicious cases, proved not Small-pox. With regard to one there was diversity of opinion as to it being a very mild case. It was very successfully re-vaccinated and retained in an isolation ward as a precautionary measure. One case proved to be Measles, and another Chicken-pox. The remaining 10 cases were of a very mild type with one exception, all made good recovery.

The serious complaint of the need of efficient bathing facilities continues. The supply of cold water is of course ample but the present method of obtaining hot water is another matter altogether, and it is quite time efficient and proper arrangements were made made. That there are not more return cases due to inefficient bathing before leaving the Hospital is a matter for congratulation. I do not want to imply that the bathing at these Hospitals is neglected, but I do say it is carried out with great difficulty, and a most limited supply of materials.

My colleague at Ham Green in his last report drew attention to the large number of children admitted to Hospital with Pediculi Capitis. I not only endorse the fact but I can confidently assert that quite 75 per cent. both children and adults come into Hospital in a dirty state in similar or other respects. After a good cleansing with soap and water they look quite transformed. I attribute this state of affairs to sending young girls to work in factories as soon as they leave school, and before they have been taught the use of soap and water.

The nursing arrangements continue to be very satisfactorily and my thanks are due to Miss Watt, the Matron, and all the nursing staff for their good services, and the many acts of kindness towards me personally.

CLIFT HOUSE AUXILIARY HOSPITAL.

Diphtheria.

Patients remaining from 1905	23	141	
,, Admitted	118		
,, Discharged	107	141	
,, Transferred to Ham Green ..	4		
,, Transferred to Novers Hill ..	1		
,, Transferred Bristol General Hospital	1		
,, Died	7		
,, Remaining	21		

The patient transferred to the Bristol General Hospital was a domestic servant at Ham Green Hospital, and was seized with sudden illness in the street, in the vicinity of Clift House. She was brought in and received medical treatment, appearing much better the following day. The day after more serious symptoms developed, pointing to the necessity of a surgical operation, she was at once transferred where an operation was performed with as little delay as possible, when her condition proved to be due to a perforating Gastric Ulcer. I believe she made an excellent recovery, and did well for several weeks, but am informed she ultimately succumbed to Enteric Tuberculosis.

Tracheotomy was necessary and successfully performed in three cases, all made a good recovery. 38 patients were treated immediately on admission with Antitoxin Serum—4,000 to 6,000 units every six hours—10 patients it was said had received serum injections before admission, quantity not stated. The milder cases received medical treatment only.

The death rate during the year was exceedingly low for Diphtheria, only 5 per cent. The usual is estimated to average about 16 to 20 per cent. or more.

There were the usual complications chiefly due to heart and kidney troubles, but none were of any particular interest.

No doubt exists that Clift House has been very useful. Many severe cases have been spared a long fatiguing journey to Ham Green. With little outlay great improvements could be made and thus create a real useful institution. To the credit of the acting Matron, Miss Browne, most useful and good work has been done, and I trust will continue. Always on the alert in discerning any change in the patients' progress, invariably ready for emergencies, with a sound knowledge of her duties, and fond of the work, she acts with discretion. I feel much relieved of mental anxiety with such trustworthy assistance.

G. C. PAULI, M.R.C.S., L.R.C.P.

TABLE B. **Showing Population, Births, Marriages, and Deaths, and Birth and Death Rates in Bristol, for the 25 Years, 1881–1905. (All figures revised on 1891 Census).**

	Estimated Population.	Registered Births.	*Marriages in the District of the Bristol Union.	Deaths.					Annual Rates.			
				Total Deaths at all Ages.	Under 1 Year.	Over 1 and under 5.	Over 60.	In Public Institutions.	Birth Rate per 1000.	Death Rate per 1000.	Infantile Mortality to 1000 Births.	Zymotic Rate.
1881	207,229	7,121	1,103	4,050	900	608	1,084	650	33·8	19·5	126·3	2·2
1882	208,007	6,935	1,107	4,019	988	589	1,045	624	33·3	19·3	142·0	2·3
1883	209,522	6,844	1,073	3,795	917	405	1,057	608	32·6	18·1	133·9	1·1
1884	211,048	6,888	1,090	4,023	1,001	538	1,061	653	32·6	19·0	145·3	1·8
1885	212,586	6,786	974	4,281	1,052	639	1,134	629	31·9	20·1	155·0	2·2
1886	214,134	6,724	949	4,253	1,002	619	1,132	694	31·4	19·8	149·1	2·2
1887	215,694	6,619	956	4,542	996	796	1,244	680	30·6	21·0	150·4	3·0
1888	217,266	6,608	981	3,816	824	432	1,138	710	30·4	17·5	124·6	1·3
1889	218,848	6,694	932	4,021	976	595	1,062	660	30·5	18·3	145·8	2·2
1890	220,442	6,634	1,033	4,532	991	597	1,265	730	30·0	20·5	149·4	2·1
1891	222,049	6,725	937	4,631	972	603	1,371	815	30·3	20·8	144·5	1·7
1892	223,592	6,563	973	4,331	953	634	1,197	776	29·3	19·3	145·2	2·0
1893	225,028	6,788	955	4,241	959	411	1,283	851	30·1	18·8	141·2	1·6
1894	226,578	6,393	920	3,888	848	524	1,077	769	28·8	17·1	148·3	2·0
1895	228,139	6,622	846	4,108	935	414	1,321	837	29·0	18·0	141·1	1·1
1896	230,626	6,537	863	3,960	908	476	1,130	793	27·8	16·8	138·9	1·8
1897	232,242	6,514	884	3,988	949	434	1,195	821	28·0	17·1	145·6	1·8
1898	316,900	9,061	837	5,441	1,491	795	1,455	881	28·5	17·1	164·5	2·6
1899	320,911	9,336	2,714	5,844	1,467	567	1,781	1,049	29·0	18 2	157·1	1·8
1900	324,973	8 972	2,839	5,397	1,185	673	1,561	968	27·6	16·6	131·9	1·8
1901	329,086	8,889	2,786	5,249	1,159	558	1,379§	1,039	27·0	15·9	130·4	1·6
1902	334,632	9,368	2,827	5,905	1,225	965	1,351	1,173	27·4	17·3	130·7	2·7
1903	338,895	9,239	2,738	4,822	1,075	467	1,189	1,094	27·2	14·2	116·3	1·1
1904	343,204	9,145	2,894	5,347	1,222	545	1,386	1,162	26·6	15·5	133·7	1.6
1905	**358,515**	**9.649**	**2.870**	**5.286**	**1,182**	**623**	**1,336**	**1,197**	**26·9**	**14·7**	**122·4**	**1·6**

* Previous to 1899 this includes the Registration Sub-Districts of St. Mary Redcliff, Castle Precincts, St. Paul, St. James, and St. Augustine only.

† The Marriages for 1899 were for the first time given for an area co-extensive with the whole enlarged City.

§Over 65, according to the new age grouping in the L.G B. Tables.

TABLE C. Showing Number of Deaths from Zymotic Diseases in Bristol, during the 25 years, 1881–1905.

	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	Enlarged City. 1898	1899	1900	1901	1902	1903	1904	1905
Small Pox	...	...	...	...	10	8	13	26	...	...	1†	...	2‡	16§	...	5	1	...	..	...	...	1	3	1‖	...
Diphtheria ...	10	8	13	19	25	28	23	26	15	16	16	38	53	50	34	38	36	44	33	103	124	189	119	105	59
Erysipelas	18	14	10	11	10	11	10	21	16	9	12	21	11	8	16	10	5	6	13	12	21	12	8	9	8
Scarlet F.	153	75	33	37	21	89	217	45	26	40	37	47	35	16	16	59	18	14	13	39	36	66	49	36	39
Typhus	7	10	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric F.	52	38	29	40	16	29	23	28	38	33	23	18	26	21	22	20	47	26	35	44	40	59	21	26	13
Puerperal F.* ...	...	...	..	18	12	8	9	17	11	12	7	25	16	11	8	8	6	11	22	20	17	17	14	16	6
Measles	120	54	33	46	159	101	147	61	185	92	239	105	25	116	8	143	57	309	38	200	7	411	11	94	180
Wh. Cough ...	38	196	38	99	149	101	124	38	105	201	53	154	80	177	45	64	118	110	118	54	189	105	65	110	123
Diarrhœa	82	104	83	132	89	119	117	68	131	96	58	99	125	65	143	106	153	348	345	165	134	110	107	206	169

* Previous to 1884, Puerperal Fever was not separated in the Local returns from Puerperal Diseases generally.
† This death occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.
‡ Of these deaths one occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.
§ Of these deaths five occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.
‖ This death occurred on the Hospital Ship, Avonmouth. Patient was admitted from Keynsham Workhouse, outside the City.

CITY OF BRISTOL.

Infectious Disease (Notification Act), 1889.

Notifications received during each Quarter of 1905

1905.—Table *a*.

NOTIFIABLE DISEASE.	First Quarter	Second Quarter.	Third Quarter	Fourth Quarter.	Totals of each disease
Small Pox	...	11	2	...	**13**
Cholera. Choleraic Diarrhœa ...	...	...	...	...	...
Diphtheria	282	171	187	368	**1,008**
Membranous Croup ...	4	2	3	4	**13**
Erysipelas	70	57	67	109	**303**
Scarlet Fever or Scarlatina	257	180	250	398	**1,085**
Typhus Fever ...	1	...	...	...	**1**
Enteric or Typhoid Fever	13	14	23	26	**76**
Relapsing Fever ...	...	...	...	...	...
Continued Fever ...	...	...	...	...	...
Puerperal Fever ...	9	10	1	10	**30**
Totals in each Quarter	**636**	**445**	**533**	**915**	**2,529**

CITY OF BRISTOL.

TABLE *b.* **Notification and Deaths registered by Sub-Districts during the year 1905.**

	Small Pox.		Choleraic, Diarrhœa.		Diphtheria,		Membranous Croup.		Erysipelas.		Scarlet Fever		TYPHUS.		ENTERIC TYPHOID		Relapsing.	Continued		PUERPERAL.		Total cases in each Sub-District.
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	
Ashley					223	6			37	2	127	4			4					1		392
Bedminster					86	6	1	1	42		147	8	1		1					7	1	285
Bristol Central					122	3	1		43	1	139	6			13	1				9	2	327
Clifton					84	4			22		99	1			4							209
Knowle					65	2			15		97	1			1					6	1	184
St. George					109	13	9		56	1	204	8			17	5				3	1	398
St. Philip	3				84	7	1		51	1	140	8			15	3				3	1	297
Stapleton					167	14			10		55	1			2	1				1		235
Westbury-on-Trym	5				33	1		1	9		41	1			1	1						89
Public Insts.	5				29		1	1	18	3	34				9	1						96
Admitted to Public Insts. from outside of Borough					6						2	1			9	1						17
Total cases of each disease	13				1.008		13		303		1,085		1		76					30		2,529
Total deaths from each disease						56		3		8		39				13					6	125
Percentage of deaths to known cases					5·1		23·0		2·6		3.5				17·1					20·0		4·9

NOTIFICATION—1905.

TABLE *c.* **Showing the number of cases of Infectious Disease notified under the Infectious Disease Notification Act, 1889, since its adoption in 1890.**

	1890	1891	1892	1893	1894	1895	1896	1897	Enlarged City. 1898	1899	1900	1901	1902	1903	1904	1905
Small Pox	0	16	0	165	201	4	42	10	2	0	0	1	6	46	34	13
Diphtheria and Membranous Croup	56	70	106	141	128	165	258	205	217	215	536	908	1,109	1,134	1,051	1,021
Erysipelas	105	135	196	230	154	195	246	203	263	337	342	392	376	244	256	303
Scarlet Fever ...	559	888	1,442	1,245	485	562	1,352	511	382	697	1,957	2,206	2,724	2,168	1,258	1,085
Typhus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Enteric Fever ...	122	117	135	122	90	89	110	350	113	219	285	281	319	134	172	76
Continued or Doubtful Fever ...	6	8	3	6	1	1	2	0	0	2	2	2	1	0	0	0
Puerperal Fever ...	11	11	34	30	18	16	21	10	18	36	46	43	39	31	27	30

COMPARATIVE TABLE—Showing the Estimated Population, Birth-rate, Death-rate, Zymotic-rate, Fever Death Rate, Diarrhœa Death Rate, and Infantile Death Rate of the 15 LARGEST TOWNS OF ENGLAND (those having a population of over 200,000); also of EDINBURGH, GLASGOW, DUBLIN and CARDIFF, for the Year 1905, compared with the same particulars and rates for the group of 76 large towns. *From the Registrar General's Return.*

	Estimated Population, middle of 1905.*	Birth-rate.	Death-rate.	Zymotic rate.	Fever Death-rate.	Diarrhœa Death-rate.	Deaths under 1 year to 1000 Births.
76 Large Towns ...	15,609,377	28·2	15·7	1·88	0·08	0·83	140
London	4,684,794	27·1	15·6	1·71	0·05	0·73	131
Liverpool	730,143	33·3	19·6	2·59	0·10	1·35	153
Manchester	631,185	29·5	18·0	2·25	0·09	1·15	157
Birmingham	542,959	29·3	16·2	1·90	0·07	0·83	154
Leeds	456,787	27·1	15·2	1·61	0·12	0·79	151
Sheffield	440,414	29·8	17·0	3·20	0·10	1·52	167
Bristol	**358,515**	**27·0**	**14·6**	**1·50**	**0·03**	**0·36**	**122**
West Ham	294,997	30·7	14·8	2·98	0·10	1·59	153
Bradford	286,799	21·1	15·2	1·42	0·08	0·50	144
Newcastle	264,511	32·1	16·8	1·33	0·04	0·58	135
Hull	258,127	30·1	16·3	2·37	0·10	1·28	152
Nottingham	251,671	26·5	16·5	2·27	0·09	0·76	155
Salford	231,514	30·7	16·9	2·57	0·19	1·21	148
Leicester	228,132	25·9	13·3	1·62	0 04	0·93	148
Portsmouth	201,975	28·0	16·6	2·64	0·09	0·86	133
Edinburgh	336,577	23·1	16·2	1·49	0·07	0·48	133
Glasgow	809,986	30·1	17·9	2·47	0·09	0·72	131
Dublin	378,994	29·6	21·3	1·41	0·16	0·74	143
Cardiff	180,054	28·6	13·4	1·14	0·04	0·32	118

* These Populations are based on the 1901 Census returns.

PART II.

REPORT OF THE CHIEF INSPECTOR OF NUISANCES.

Public Health Department,
40, Prince Street,
February, 1906.

1905.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have once again the honour of submitting the following brief report, with summaries showing the amount of work effected in this Department during the year 1905.

The complaints and applications received at the office numbered 1,273 as against 1,092 in the previous year, the increase being due to the enlargement of the City in October, 1904, all of these were dealt with as found to be necessary, so that at the present time there are none standing over. Many of these complaints ought never to have been made; in 365 cases, or 28·7 per cent., no nuisance whatever was found to exist at the places complained of.

2,529 cases of notifiable infectious disease were duly enquired into by the District Inspectors, and the result of such enquiries entered on cards provided for that purpose as required by the Medical Officer of Health. Last year there were 2,825 such cases. This work alone necessitated 5,613 visits to the infected houses, and also entails an immense amount of clerical work, as in addition to the case cards, school cards have to be made out by the Inspectors and sent to the Head Master

or Mistress of all schools where children residing in infected houses attend, as well as to the Clerk to the Education Committee, and very frequently children from the same house attend 2 or 3 different schools, which, of course, means 2 or 3 sets of such school cards, each set consisting of 3 cards. 1,950 infected houses were disinfected, and 52,974 articles of bedding, clothing, etc., removed therefrom and disinfected by super-heated steam. This work is managed in such a manner that the people are put to as little inconvenience as possible. 514 similar articles were destroyed at the request of the owners, being in such a condition that disinfection was impossible. The clothing of patients taken to Ham Green and Novers Hill Hospitals are not included in the above totals, as they are all disinfected at those hospitals, each of which is equipped with a Washington Lyon's Steam Disinfector with up-to-date improvements.

The informal notices numbered 1,984 and were so successful that only 141 statutory notices were required. 3 summonses were issued for non-compliance with notices, but in each case the necessary work was done before the day of hearing, when the summonses were withdrawn on payment of costs, in several other cases considerable pressure had to be used before the notices were complied with.

In addition to the informal notices, many verbal and written requests to owners or occupiers have been made with satisfactory results.

The usual summaries of work effected by the various District and Special Inspectors are appended.

Non-Notifiable Infectious Disease, such as Measles, Whooping Cough, Chicken pox, Mumps, etc., were also visited as per notification from the elementary and other schools that children from certain houses were absent from school in consequence of such disease. 2,615 visits were paid to such houses, and in acute cases, and where there

was no medical attendant, the parents were advised to have medical advice, and very frequently this advice was followed, how many lives were saved by this course of action it is impossible to say. Disinfection was also offered wherever considered advisable, and if such offer was accepted, carried out.

Phthisis. During the year 407 deaths from this disease occurred, against 416 in the previous year, this is a slight reduction, although the City has been considerably enlarged, in every case the house where the death occurred was visited and disinfection offered, and in the majority of cases such offer was accepted, and disinfection carried out, the rooms being sprayed with a strong solution of Formalin, and in cases of long duration or where considered necessary, the walls stripped, scraped and repapered or limewashed as the case may be, this being done at the cost of the owner or occupier.

Since the month of September, nearly 400 cases of this disease have been notified to the Medical Officer of Health, and visited by the District Inspectors. This means a considerable addition to the work of the District Inspectors, as it is already found that the patients frequently change their residence without saying anything about it, and, unless carefully watched, the house or rooms vacated would speedily be occupied by others, without any disinfection being carried out, when one of the objects of notification would be defeated.

Houses Let in Lodgings or Tenement Houses.

The May notices for the annual cleaning and limewashing of these houses have again been so readily complied with that no prosecutions have been necessary, and, as will be seen by the summary of work hereto appended, 2,031 rooms and 406 passages and staircases have been so cleansed. As I stated last year, so I must again say, there are many similar houses which ought to be measured up and registered under the bye-laws relating to tenement

houses, but my endeavours to get an Inspector appointed for this work have not as yet borne fruit, for which I am sorry, as there is more overcrowding in this class of house than any other, so that constant supervision is absolutely necessary, as the occupants are continually on the move. I can only hope that in the very near future I shall have the assistance so necessary for this work.

Housing of the Working Classes Act, 1890.

28 houses have been dealt with under this Act with the following result, viz., 17 so improved that they were made fairly habitable, and 11 closed, all of which were closed without appealing to the Justices for a closing order, and as in previous years a number of similar houses have been closed and demolished to make room for the extension of business premises, etc. In many other courts, improvements have been made such as new and modern sanitary conveniences, paving of the surface of the courts, providing wash houses, etc. There is, however, still room for much further improvement in this direction, which I trust to be able to deal with as soon as the promised assistance is forthcoming.

Slaughter Houses. These now number 114, as follows :– 71 with permanent licenses which had been licensed prior to the adoption of the Public Health Acts Amendment Act, 1890., 39 with annual licenses granted under the provisions of that Act, 2 for the slaughtering of foreign animals when landed at the Docks, and 2 knacker's yards. When it is considered that these slaughter houses are scattered over 17,000 acres, extending 9 or 10 miles one way, and 8 or 9 the other, it must at once be palpable that for 2 Inspectors to properly inspect the carcases killed therein, is a matter of impossibility, but I must and do again say that your two Inspectors, Messrs. Thomas and Gitsham, work like Trojans, and have during the year been responsible for the destruction of 32 tons

6 cwt 2 qrs. and 20 lbs of meat of various kinds, which they had found to be unfit for food, consisting of :—

The entire carcases of		19 Beasts.
,,	,,	17 Sheep.
,,	,,	153 Pigs.
,,	,,	2 Calves.

The remainder consisted of parts of carcases and odd pieces of meat from butchers' shops.

There were also destroyed for the same reasons, 114 rabbits, 65 ducks, 190 packages of fish (which were not weighed), 383 packages of vegetables, and 680 ditto of fruit (chiefly oranges), and I may here mention that just recently in this year your Inspector Thomas has been responsible for the destruction of over 10,000 tins of canned meat (salvage from fire), which had been advertised for sale by auction, and weighed over 10 tons, but which was absolutely unfit for food. I have the pleasure of here stating that the local firm of auctioneers rendered every possible assistance to your Inspector, although against their financial interests.

I also again acknowledge very gratefully the valuable assistance rendered to your Inspectors by the large bacon curers and the majority of butchers in the City.

I must once again express my great wish and desire to see the establishment of Public Abattoirs, but I am sadly afraid that public benefit in this respect has no chance against private interests, at present at all events, how long it will remain so I cannot say. I am afraid that the advent of Public Abattoirs will not be in my time.

Factory and Workshops Act. Much good work has again been done at factories and workshops, as a glance at the attached summary will show. The communications passing between the two offices are many and frequent,

and always friendly and cordial. 52 complaints have been received from H.M. Inspector during the year, 32 of which referred to factories and 20 to workshops, but in 6 of these no cause for interference was found, in all the others the necessary work was done; during the same period communications were sent from this office to H.M. Inspector chiefly relative to the employment of young persons, all of which were duly acknowledged and attended to, but in 6 of the cases mentioned no action was necessary, as no nuisance was found. 25 cases of failure to affix the abstract of the Factory and Workshops Act as required by Section 133, were notified to H.M. Inspector from this office. There are now 1,611 workshops on the Register, not including bakehouses, which are dealt with separately. Other particulars in regard to this work are enumerated in the attached summaries.

Dairies, Cowsheds and Milkshops Order.

The year has been a very busy one for Inspector Casely, the Inspector for this work, in consequence of the enlargement of the City in October, 1904, which added 36 cowsheds to the register, and of these only 1 was found to be so fit for use that no amendment was required, 12 others were easily put right, and 23 were so bad that very considerable structural alteration had to be made under notice to secure more light, better ventilation, and better paving in yards and sheds, many of which were found to be considerably overcrowded with cattle, and in several cases the water supply was impure, and, generally speaking, the accumulation of manure was very considerable, all of which has now been altered, as well as the drainage system improved, at 13 farms entirely relaid with new water closets, etc. This work in the new area occupied the Inspector 100 days, in which time he paid 464 visits, the farms and sheds being widely scattered over 6,000 acres. There are now 76 cowsheds registered which require constant supervision to prevent the accumulation of manure and overcrowding of cattle.

Dairies and Milkshops have been kept up to the high standard previously attained, a glance at the summary of work effected will at once show what has been done in the matter of sanitary conveniences, paving, lighting and ventilation, not forgetting limewashing. Small milkshops are the most difficult to deal with in regard to cleanliness of both premises and utensils, the utmost vigilance being required to keep them up to the mark. During the year 62 fresh milkshops were registered, and 81 gave up the sale of milk rather than comply with the requirements of the Order. There are now over 1,000 on the register.

A case of anthrax was notified to this office, which was found to be at a farm situate outside the City boundaries, but from which milk was sent into the City, this was immediately stopped.

Common Lodging Houses. These are the same as last year, viz., 42 in number, containing 219 rooms with accommodation for 1,138 men, 20 single women, and 40 married couples, and the bye-laws have, generally speaking, been well observed, no prosecutions have been necessary.

In addition to the above there is accommodation in private institutions such as the Salvation and Church Army, which provide shelters for a considerable number of both males and females.

The Municipal Common Lodging House at the corner of Wade Street and River Street, was opened in March last with 102 cubicles, and has met with considerable patronage, the details of which your Committee are well acquainted with.

Combined Drains. During the year 24 of such drains have been dealt with under Section 41 of the Public Health Act, 1875, to which the drains of 181 houses were connected. In 5 of these the work was done by the

owners themselves, and in the other 19 cases the work was done by men in the employ of the Sanitary Committee, under the supervision of the City Engineer or his assistants, and the cost thereof apportioned amongst the various owners.

The long and much vexed question of drain or sewer has now so far as Bristol is concerned been finally settled by the passing of the Bristol Corporation Act, 1905, Section 34 of which deals with such drains in a satisfactory manner.

I feel that I ought not to finish this report without again reminding your Committee that although it is now 18 months since the City was enlarged to the extent of nearly 6,000 acres, I have not been provided with the additional assistance necessary for the proper Inspection of the enlarged City, but I trust that ere long such assistance will be forthcoming.

My thanks are again due and are hereby gratefully tendered to the Town Clerk and his Assistants, and the City Engineer and his Staff, for much valuable advice and assistance.

I am, Gentlemen,

Your obedient Servant,

JAMES W. KIRLEY.

Chief Inspector of Nuisances.

Summary of Work effected in the Health Department during Twelve Years—1894-1905.

Prepared by the Chief Inspector of Nuisances.

TABLE SHOWING THE NUMBER OF NUISANCES ABATED AND OTHER WORK DONE IN EACH YEAR SINCE 1894.

	1894	1895	1896	1897	1898*	1899	1900	1901	1902	1903	1904	*²1905
Number of Nuisances abated	7564	7366	8800	8049	12113	11837	10920	10151	10482	10542	11007	12232
Polluted Wells closed	27	32	14	14	46	49	18	19	21	11	8	22
Houses supplied with Co.'s Water ...	79	85	68	76	151	150	78	83	65	47	51	91
Houses disinfected ...	931	651	1389	855	682	951	2216	2652	3130	2866	2229	1950
Articles of bedding, &c., disinfected ...	36274	24320	49226	33847	25852	29965	55807	66626	68330	63919	52813	53488

*Enlarged City. *²Enlarged City.

Summary of Nuisances Abated and Work done by, and under the Supervision of the Inspectors in the Health Department during the Year ending December 31st, 1905.

Prepared by the Chief Inspector of Nuisances.

NATURE OF WORK.	By District Inspectors.	By Inspector of Dairies, &c.	By Inspectors of Workshops &c.	By Inspectors of Slaughter Houses, &c.	By Inspector of Common Lodging Houses.	By Inspector of Bake Houses.	Totals.
Visits and Re-visits	32331	2453	4973	16300	485	1052	57594
Drains entirely relaid, &c.	391	29	44	3	2	6	475
Do. partially relaid	692	11	65	10		4	782
W.C.'s fitted with new pans, &c. ...	924	31	149	8	9	7	1128
Do. cleansed and amended	231	23	74	1			329
Do. fitted with flushing appliances ...	249	6	150	7	9	7	428
Additional W.C. accommodation provided	22		26				48
Dilapidated Houses repaired, &c. ...	550						550
Defective Roofs repaired	251	2	27			20	300
Sinks and Yard Gullies trapped ...	1745	57	126	29		11	1968
Yards paved by Owners	780	31	132	15			958
Cesspools abolished	51						51
Offensive Deposits removed	203	138	9	37		19	406
Keeping of Pigs, &c., prohibited ...	149						149
Smoke Nuisances abated	16					4	20
Offensive Trades do.	40				2		42
Polluted Wells closed	22						22
Company's Water provided to houses ..	83		8				91
Nuisances from overcrowding abated ..	34		2				36
Dairies, &c., Cleansed and Improved ...		83					83
Workrooms and Passages, limewashed, &c.			531				531
Do. better ventilation secured			10		28	1	39
Rooms at Tenement Houses limewashed, &c.	2031						2031
Passages and Stairs at do. do.	406						406
Slaughter Houses limewashed				325			325
Do. Paving repaired ...				12			12
Limewashing, &c., secured		416			80	156	682
Other Nuisances abated	245	24	13	15	23	20	340
Totals	**9115**	**881**	**1366**	**462**	**153**	**255**	**12232**

No. of Complaints received and attended to	1273
,, Offensive trades visited	153
,, Smoke observations taken	216
,, Times smoke test applied to drains	1634
,, Notices served informal	1984
,, ,, ,, formal	141
Half-yearly Cleansing Notices served, Common Lodging Houses	79
,, ,, ,, ,, Bakehouses	236
,, ,, ,, ,, Dairies, Cowsheds, &c. ...	400
,, ,, ,, ,, Slaughter Houses ...	314
,, ,, ,, ,, Tenement Houses ...	280
No. of Visits to houses *re* infectious disease	7613
,, Houses disinfected after such disease	1950
,, Articles of Bedding, &c., removed and disinfected ..	52974
,, Do. Do. and burnt	514
Total number of Articles dealt with	53488
Weight of Meat destroyed as unfit for food	32 tons 6 cwt. 2 qrs. 2 lbs.

J. W. KIRLEY,
Chief Inspector of Nuisances.

Report of proceedings at the Conference on Smoke Abatement, arranged by the Royal Sanitary Institute in conjunction with the Coal Smoke Abatement Society, and held in the Royal Horticultural Society's Hall, Vincent Square, Westminster, December the 12th to the 15th, 1905.

In accordance with a resolution of the Health Committee I attended the above-named conference with the Medical Officer of Health, on all the dates above-mentioned.

The Conference was well attended, and the proceedings were opened by Sir Oliver Lodge, who gave an address on the general problem of Combustion Reform, and afterwards papers were read by such eminent men as Sir George Livesey, Sir Charles Cookson, Dr. Rideal, Professor Cohen, Sir William H. Preece, Sir John Ure Primrose, and many others, altogether some 20 papers, which embraced every conceivable point in connection with the smoke problem.

The discussions thereon were generally very interesting and instructive, and those taking part in the same were such men as Sir William Richmond, K.C.B., Sir William Preece, Sir John Ure Primrose, and many others, who evidently understood what they were talking about and had the matter at heart.

To sum up the result very shortly, there was a general consensus of opinion that smoke caused a great nuisance, that it was very destructive in its effect on buildings of every description, that it injuriously effected the health of individuals as well as plant life.

That it was to a very large extent preventable. That when it was largely in evidence there was a great waste of fuel.

That the law relating to the smoke question urgently required amendment and consolidation. That inspectors

appointed to deal with smoke abatement should be well-trained mechanical experts with a special knowledge of furnace construction, boilers, &c. That stokers should be trained to the work of stoking before being put in charge of any furnace.

Various other matters (too numerous to mention in a report of this description) were also dwelt upon.

There was also an exhibition of appliances for the abatement of smoke nuisances in connection with the conference, but unfortunately these were not working, so that any proper estimate of their effectiveness was out of the question, but as a matter of course each and every one claimed to be the best in the market.

My own experience is that the production of smoke very largely depends on the stokers, whether mechanical or manual, provided of course that the fuel supplied is of good quality.

I may say here that the best mechanical stokers I have seen at work, are those in use at the Bristol Corporation Electric Lighting Station, Feeder Road, St. Philip's, where there is no tall chimney, and black smoke is scarcely ever seen.

I am greatly indebted to your Committee for giving me the opportunity and privilege of attending this conference.

J. W. KIRLEY,
Chief Inspector.

City of Bristol.

FACTORY AND WORKSHOP ACT, 1901.

Report of the Medical Officer of Health on the Administration of the Act in the City of Bristol during the Year 1905 (Sec. 132, F. & W. Act, 1901)

Workshops.

The Factory and Workshop Act (1891) transferred the Sanitary control of " Workshops " and Workplaces " from the Inspector of Factories to the City Council acting as the Urban Sanitary Authority.

A special Inspector of Workshops was appointed, Workshops were at once placed on the Register and inspected, and this control has been continuously exercised since its commencement up to the present. Upon the extension of the City in 1897, a second special Inspector of Workshops was appointed. The progress of the work year by year, is shown in the following table :—

TABLE 1. **Workshops.** CITY OF BRISTOL.

Showing particulars in regard to the Inspection of Workshops since 1891.

Year.	Population of City.	No. of Workshops on Register.	No. of Nuisances abated.	Visits & Revisits.	Particulars sent to H.M. Inspector.	Communications received from H.M. Inspector.
1892	223,592	134	215	970	—	5
1893	225,028	349	568	2377	303	15
1894	226.578	584	644	2188	128	18
1895	228,139	764	558	1978	29	32
1896	230,623	881	578	2456	10	35
1897	232,242	1042	660	2674	14	19
CITY ENLARGED.						
1898	316,900	1123	1203	4943	16	21
1899	320,911	1602	1117	4494	37	16
1900	324,973	1800	1004	4263	13	15
1901	329,086	1846	1005	4875	12	25
1902	334,632	1872	1187	5480	21	62
1903	338,895	1532	1110	5885	39	71
1904	343,204	1537	1237	5563	45	88
1905	358,515	1611	1366	4973	25	52

The details of work secured during the year 1905 are shown in the following table:—

TABLE 2. **Workshops.** CITY OF BRISTOL.

Work secured by the Special Inspectors of Workshops, etc., in the City of Bristol, during the year 1905.

Total Visits and Re-visits	4973
Total Nuisances abated	1366

PARTICULARS OF NUISANCES DEALT WITH.

DRAINAGE AND FILTH NUISANCES.	Drains entirely relaid	44
	Drains partially relaid	65
	W.C.'s fitted with new pans	149
	W.C.'s cleansed and amended ...	74
	W.C.'s fitted with flushing appliances	150
	Additional W.C. accommodation provided	26
	Sinks and Yard Gullies trapped ...	126
	Offensive Deposits removed	9
STRUCTURAL DEFECTS	Defective Roofs repaired	27
	Yards paved by Owners	132
LIMEWASHING AND CLEANSING.	Workrooms and Passages, limewashed and cleansed	531
VENTILATION AND OVERCROWDING.	Nuisances from overcrowding abated	2
	Better Ventilation secured in Workrooms	10
WATER SUPPLY.	Company's Water provided	8
	Other Nuisances	13

Home Work.

(SECS. 107 TO 115)

The following table shows particulars with regard to the lists of Outworkers received during the year 1905. The lists are kept by the Town Clerk, who forwards to the Medical Officer of Health the names and addresses of those Outworkers who reside within the District of the City of Bristol

TABLE 3. **Workshops.** CITY OF BRISTOL.

OUTWORKERS.

Showing Lists received during the year 1905.

Nature of Employment.	February Lists.		August Lists.	
	No. of Lists.	No. of Outworkers.	No. of Lists.	No. of Outworkers.
Boot and Shoe Making	7	114	2	45
Cabinet Making, etc.	1	7	1	8
Manufacture of Wearing Apparel	21	1259	15	901
	29	1380	18	954

Upon receipt of the lists of Outworkers the special Workshop Inspectors visit the premises as far as possible in conjunction with their work under the other provisions of the Act. The number of premises visited in 1905 was 532, and 11 sanitary defects were found to exist, which were rectified ; in no instance was any case found where wearing apparel was being made,cleaned, or repaired in a house, whilst any inmate was suffering from Scarlet Fever or Small Pox (see Sec. 109). Nor did any case require action to be taken under Section 110, for the

reason that all such conditions as are specified in Sections 109 and 110, have, since the adoption of the Notification Act in 1890, been most carefully guarded against by a complete system of administering the Notification and Public Health Acts, in which these questions have always received special attention.

Bakehouses (Secs. 97—102).

In 1883 the Sanitary control of Bakehouses, which had from 1878 until that date been under the control of H.M. Inspector of Factories, was re-transferred to the Medical Officer of Health.

The necessity for this transference became abundantly evident in Bristol soon after the resumption of these duties by the Medical Officer of Health.

Considerable improvement in these premises was soon secured, but, at the same time it was noticed as a drawback that no regulations were contained in the Act with regard to construction ; so that certain underground rooms, old dilapidated premises not fit for the purpose, and similar conditions, had to be tolerated.

The systematic inspection has been continued year by year with evidence of improvement.

Workshops. TABLE 4. CITY OF BRISTOL.

BAKEHOUSES.

Showing defects found and remedied in each year since bakehouse inspection was instituted.

Year.	Particulars.	Total.
1881	Total contraventions found in respect of cleansing, lime-washing, defective drains, repairs, and defective ventilation.	342
1885	Ditto	244
1886	Ditto	96
1887	Ditto	132
1888	Ditto	69
1889	Ditto	65
1890	Ditto	89
1891	Ditto	80
1892	Ditto	71
1893	Ditto	36
1894	Ditto	57
1895	Ditto	74
1896	Ditto	57
1897	CITY ENLARGED IN 1897.	140
1898	Ditto	178
1899	Ditto	168
1900	Ditto	172
1901	Ditto	151
1902	Ditto	198
1903	Ditto	192
1904	CITY ENLARGED Including special work required in underground bakehouses.	250
1905	Ditto	230

Factory and Workshop Act, 1901

Inspection of Bakehouses for the year 1905.

Report of the Inspector in respect of work done under the Provisions of the above Act, with particulars of the conditions found.

The usual inspection has been maintained during the past year, with the result that 370 various premises were found to be in use as Bakehouses, this number being an increase of 4 as compared with 1904.

The inspections numbered 1,052, and the result of these operations was, that 230 various nuisances, defects, contraventions of regulations, etc., were noted, a total of 20 less than in the previous year, when it will be remembered special improvements and alterations were required under the provisions of the section relating to Underground Bakeries coming into operation in that year.

Of these 230 defaults, 30 cases only could be classed as structural sanitary defects, 37 occurred from lax cleaning operations, and 4 in respect of smoke troubles, whereas the total number of such last year was 136.

I have, however, to record a falling off—in the observance of the Limewashing Regulations, whereby 156 non-compliances within the prescribed periods (i.e. each six months at least) were noted, which is an increase of 50, but in fairness to the defaulters, I must state that in most cases the contraventions were not of long standing and the remedy was quickly applied in most cases on the omission being pointed out, and I think it unlikely to occur again to any extent.

Master Bakers generally are alive to the importance of maintaining their bakeries and premises in a wholesome and sanitary state, and I have to state the advancement of these conditions, as initiated by the work of the last 22 years, has been fairly maintained, as a consequence the general sanitary and health conditions have been improved, this is specially so where modern methods, improvements in buildings, modern ovens and machines have been brought into use, thereby entailing considerably less personal handling in the manufacturing processes, much reducing the hours of labour, and providing more opportunities for the necessary cleansing operations, whereby the food of the people is made under very much better sanitary conditions than formerly was the case in most places when the provisions of the Act came first into operation, and I hope soon to be able to record, after making allowance for the unequal structural conditions and difficulties, that the improving measures have extended to every bakery in the City.

In dealing with the before-mentioned contraventions and defects, 155 verbal requisitions and 81 written notices and communications were made, all of which had been complied with at the end of the year with 17 exceptions, which were then in course of attention and have since been complied with, or are now in hand.

Employés in many places have taken an increased interest in the cleanly conditions of the bakehouses and it would be a step in the right direction if all employers would encourage this.

I beg to append tables which give full particulars.

TABLE 5. **Table of Bakehouse Inspection for the Year.**

1905. With particulars of Condition, Contraventions, Action taken, and Results.

Total number of inspections and visits	...	1052
Number of Bakehouse premises found to be in good or passable order and condition	835	
Ditto ditto not in satisfactory condition from one of the undermentioned defects	217	
	1052	1052

PARTICULARS OF DEFECTS AND CONTRAVENTIONS.

Total Defects.	Nature of Defects, etc.		Total Notices	Description of Notices Complied With.	
230	Contraventions of lime-washing regulations	156	236	Informal Notices given to abate nuisances, effect repairs, or comply with Regulations	145
	Ditto General cleaning	19			
	Bakehouse premises with defective drainage	9		Various Written Notices served and complied with	74
	Ditto with defective floors, roofs, paving, or other dilapidations ...	20			
	Ditto with defective ventilation improv'd	1			
	Ditto Manure accumulations and other deposits	18		Verbal and Written Notices in force at end of year	17
	Smoke nuisances dealt with	4			
	Drain Interceptions required	3			
230		230	236		236

S. O. DIMOND, *Inspector.*

FACTORY ACT. HOME OFFICE FORM.

Annual Report of the Medical Officer of Health for 1905, for the City of Bristol.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections	Notices Written	Prosecutions
Factories (Including Factory Laundries)	965	214	None.
Workshops (Including Workshop Laundries)	3476		
Workplaces			None.
Homeworkers' Premises	532		None.
Total	4973	214	None.

2.—DEFECTS FOUND.

Particulars.	Number of Defects			Number of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
**Nuisances under the Public Health Acts :—*				
Want of cleanliness	531	531		
Want of ventilation	10	10		
Overcrowding	2	2		
Want of drainage of floors				
Other nuisances	522	522		
†Sanitary Accommodation :—				
Insufficient	26	26		
Unsuitable or defective ..	259	259		
Not separate for sexes ..	16	16		
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	None			
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ..	None			
Failure as regard lists of outworkers (S. 107)	None			
Giving out work to be done in premises which are { unwholesome (S. 108) / infected (S. 110) ..	None			
Allowing wearing apparel to be made in premises infected by scarlet fever or smallpox (S. 109)	None			
Other offences	None			
Total	1366	1366	25	None

Re-employment of young persons 25

* Including those specified in Sections 2, 3, 7 and 8, of the Factory Act as remediable under the Public Health Acts.

† Section 22. Public Health Acts Amendment Act was adopted in February, 1891. Standard of sufficiency adopted, 1 for each 25 males. Standard of suitability, generally in accordance with Home Office Memorandum.

3.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspectors of Factories:	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	25
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Notified by H.M Inspector	52
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) — Reports (of action taken) sent to H.M. Inspectors	52
Other	None.
Underground Bakehouses (S. 101) :—	
In use during 1903	51
Certificates granted in 1903 and 1904 ..	35
In use at the end of 1905	35

Homework :—	Number of Lists.	Number of Outworkers
*Lists of Outworkers** (S. 107) :—		
Lists received	47	2334
Addresses of outworkers — forwarded to other Authorities	1	7
Addresses of outworkers — received from other Authorities		

Homeworkers in unwholsome or infected premises:—	Wearing Apparel	Other.
Notices prohibiting homework in unwholesome premises (S. 108)	None.	
Cases of infectious disease notified in homeworkers' premises	None.	
Orders prohibiting homework in infected premises (S. 110)	None.	

Workshops on the Register (S. 131) at the end of 1905 :—	
Important classes of workshops, such as workshop bakehouses, may be enumerated here	1611
Total number of workshops on Register ..	1611

The Lists should be received twice in the year. The year's figures required in the Table are then obtained by adding together the two half-yearly totals.

1905—1906.

Baths and Wash-houses.

The following figures are returned for the year's work :—

Year ended 25th March, 1906.	No of Bathers. Swimming Baths.	Private Baths.	Women Washing Clothes.
"Victoria," Clifton (Baths only)	17,298	1,456	...
"Royal," Kingsdown (Baths only)	39,168	...	...
Broad Weir	32,176	30 630	18,583
Mayor's Paddock, New Cut	31,795	29,461	17,448
Jacob's Wells (Baths only)	49,753	23,720	...
Rennison's (Swimming Bath only)	11,884	...	...
Barton Hill	65,392	29,747	...
Eastville Park (Swimming Bath only)	18,988	...	...
Victoria Park (Swimming Bath only)	13,537	...	...
Greville Park (Swimming Bath only)	2,194	...	...
Total ...	282,185	115,014	36,031

1904	251 467	117,431	33,541
1905	282,185	115,014	36,031
	+ 30,718	- 2,417	+ 2,490

(Up to March 25th, 1906).

Particulars supplied by Mr. J. KANE.

Mr. F. Wallis Stoddart, F.I.C., F.C.S., has kindly supplied the following returns up to the end of July, and Mr. J. W. Gatehouse, F.I.C., Public Analyst, Bath, from July up to the end of the year:—

"FOOD AND DRUGS ACTS."

SUMMARY OF RETURNS FOR 1905.

Articles.	Analysed.	Condemned.
Milk	451	101
Butter	197	7
Margarine	15	2
Condiments	31	3
Sweets & Confectionery	34	0
Golden Syrup ...	6	0
Bread	2	0
Baking Powder Flour and Meal	12	0
Alcoholic Beverages ...	20	0
Non-alcoholic do. ...	6	5
Cheese	9	0
Coffee	5	0
Lard	11	0
Various	3	0
	802	118

The working of these Acts in the City of Bristol is entrusted to an Inspector acting under the Watch Committee, and is not administered by the Health Committee.

PART III.

I am extremely indebted to Mr. H. H. HARDING for the great pains he takes in presenting annually his interesting summary of the year's weather.

D. S. DAVIES, M.D.

METEOROLOGICAL OBSERVATIONS FOR BRISTOL, 1905.

January.—The most prominent feature of this month was undoubtedly its uniform dryness, not a single substantial rainfall occurring locally from first to last.

The mean temperature (max. and min.) was 38·8 degrees, this value being slightly below the average. The maximum reading was 54 degrees on the 7th, and the minimum 21·8 degrees on the 19th—an extreme range of 32·2 degrees. The warmest day occurred on the 7th with a mean temperature of 51·6 degrees, and the coldest on the 20th, mean 29·4 degrees. Thirteen frosty nights occurred. The total rainfall ranged from 0·68 inches at Clifton to 0·47 inches at Fishponds, falling upon 12 and 7 days respectively. These amounts show a deficiency of about two and a half inches.

Mean atmospheric pressure at 9 a.m. was 30·303 inches, a value far in excess of normal. The maximum reading was 30·988 inches on the 28th, and the minimum 29·254 on the 17th.

February.—Warm and light breezes generally from a westerly point, together with almost unbroken dry weather prevailed throughout the first three weeks of this month. The last week, however, brought a decided change to more seasonable weather, conditions generally becoming cold and very unsettled.

The mean temperature of the month was 42·6 degrees, over three degrees above the average. The extremes were 53·6 degrees on the 14th, and 26·3 degrees on the 25th—an extreme range of 27·3 degrees. The warmest day was the 7th, with a mean temperature of 48·5 degrees, and the coldest the 25th, mean 34·9 degrees. Only two frosty nights were experienced.

The rainfall locally varied from 0·86 inches at Clifton to 0·54 inches at Fishponds, falling on 13 and 8 days respectively. These totals show an excess of about one and half inches.

Mean atmospheric pressure at 9 a.m. was 30·213 inches, a value much above the average. The highest reading was 30·602 inches on the 12th, and the lowest 29·208 inches on the 27th.

March.—After a day or so of fair cold weather this month brought a spell of very rough wet and stormy conditions, which effectively brought to a conclusion the extraordinary drought which had prevailed with slight interruption since the close of the preceding summer. This inclement spell, which lasted until the 17th, was remarkable for its frequent and, for the time of year, severe thunderstorms. After the 17th the weather showed a decided improvement, although never becoming really settled.

The mean temperature was 45·4 degrees, this being much in excess of normal. The maximum was 62·1 degrees on the 22nd, and the minimum 28·5 degrees on the 24th—a range of 33·6. The warmest day occurred on the 21st, with a mean temperature of 50·8 degrees ; and the coldest on the 3rd, mean 37·3 degrees. Two frosty nights were observed.

The total rainfall at Clifton was 4·74 inches, and at Fishponds 4·23 inches, falling on 21 days. These amounts are very excessive, the quantity being nearly double that usually associated with the month.

Mean atmospheric pressure at 9 a.m. was very deficient, the figures being 29·724 inches. The extreme readings were 30·320 inches on the 3rd, and 28·857 inches on the 15th.

April.—A very March-like month, conditions almost without interruption being cold, rough, and sunless; not one single day of continuous sunshine in fact occurring from the opening to the closing day. Happily, however, the month was unusually free from frost, the protected thermometer only on one occasion falling to freezing point.

The mean temperature was 46·9 degrees, this value being just over a degree below the average. The maximum was ·61 degrees on the 13th, and the minimum 32 degrees on the 22nd—an extreme range of 29 degrees. The warmest day was the 13th, with a mean temperature of 54 degrees, and the coldest the 19th, mean 40·5 degrees.

The total rainfall was in excess to the extent of about an inch, the amount varying from 3·16 inches at Clifton to 2·83 inches at Fishponds, falling upon 21 and 17 days respectively.

Mean atmospheric pressure was 29·855 inches, this value being decidedly deficient. The greatest pressure at 9 a.m. was 30·280 inches on the 1st, and the least 29·303 inches on the 11th.

May.—A month of continuous sunshine and almost complete freedom from rain. Unfortunately, however, in spite of its sunny character the month brought some very cold weather during its first and fourth weeks, when destructive ground frosts occurred in many districts.

The mean temperature was 52·1 degrees, a value closely approximating to the average of the past decade, and almost precisely that of the month a year ago. The maximum reading was 72·9 degrees on the 28th, and the minimum 33·8 degrees on the 22nd—an extreme range of

39·1 degrees. The warmest day was the 28th, with a mean temperature of 62·2 degrees, and the coldest the 22nd, mean 43·7 degrees.

The total rainfall was 0·12 inches at Fishponds, and 0·11 inches at Clifton, the rainy days being 5 and 7 respectively. The month was the driest May on record, 0·23 inches for the month in 1876 being the previous smallest total.

Mean atmospheric pressure was excessive, the figures being 30·147 inches. The maximum at 9 a.m. was 30·467 inches on the 5th, and the minimum 29·368 inches on the 1st.

June.—The first three weeks of this month were very unsettled, rainfalls being frequent and at times heavy, and the temperature deficient. The fourth week, fortunately, made ample amends, the weather being brilliantly fine and summerlike.

The mean temperature was 59·2 degrees, a fairly average value ; the month being the warmest June since 1899. The maximum temperature was 77·7 degrees on the 22nd, and the minimum 43·1 degrees on the 9th—an extreme range of 34·6 degrees. The warmest day was the 23rd, with a mean temperature of 68 degrees, and the coldest the 6th, mean 49·5 degrees.

The rainfall exceeded the average by about two inches, it being the wettest June since 1879, when at Clifton the fall amounted to 5·29 inches. The fall varied from 4·09 inches at Fishponds to 4·28 inches at Clifton, the number of rainy days being 17.

Mean atmospheric pressure was 29·960 inches, this value showing a small deficiency. The extremes of pressure at 9 a.m. were 30·382 inches on the 22nd, and 29·709 inches on the 18th.

July.—A fair and dry month, not a single heavy rainfall occurring in this locality throughout, while the temperature, although at no time reaching any excessive height, maintained a level well above the average. Altogether the month was of a most pleasant and favourable description, but naturally towards its close it became increasingly evident that some copious rainfalls would not be unwelcome.

The mean temperature was 64·2 degrees, about two-and-a-half degrees in excess of normal. The extremes for the month were 82·8 degrees on the 8th, and 45·7 degrees on the 7th—a range of 37·1 degrees. The warmest day was the 26th with a mean temperature of 71·0 degrees, and the coldest on the 6th, mean 59·6 degrees.

The total rainfall varied from 0·53 inches at Fishponds to 0·91 inches at Clifton, falling on 7 and 9 days respectively. The deficiency for the month was well over two inches.

Mean atmospheric pressure was well above normal the figures being 30·072 inches. The highest reading at 9 a.m. was 30·275 inches on the 19th, and the lowest 29·828 inches on the 1st.

August.—This month commenced with a period of very unsettled weather, during which on the 3rd and 4th occurred a storm of great violence for the time of year. Then followed some fairly dry but never really settled weather to the close of the third week, when came a series of substantial rainfalls lasting until the closing days of the month.

Mean temperature was 59·8 degrees, this value being about a degree below that of the average of the past decade. The extreme readings were 75 degrees on the 14th and 15th, and 46 degrees on the 1st and 12th—a range of 29 degrees. The warmest day occurred on the 15th, with a mean temperature of 65 degrees, and the coldest on the 30th, mean 56 degrees.

The rainfall locally amounted to 3·89 inches at Clifton, and 3·42 inches at Fishponds, falling on 19 and 18 days respectively. Very curiously the figures for Fishponds exactly correspond to those for the month in 1904. In comparison with the average the totals show a small excess.

Mean atmospheric pressure was 29·883 inches, a result decidedly below normal. The maximum reading at 9 a.m was 30·300 inches on the 12th, and the minimum 29·362 inches on the 4th.

September.—After a period of wet which lasted until the 10th, the month was generally fair and dry. Conditions, however, were of a decidedly autumnal character, the decrease of temperature as the month moved onward towards its close, being most consistent and decided.

Mean temperature was over two degrees below normal, the figures being 55·2 degrees. The extremes for the month were 69·7 degrees on the 5th, and 36·9 degrees on the 14th—a range of 32·8 degrees. The warmest was the 4th with a mean temperature of 63·1 degrees, and the coldest the 14th, mean 49·2 degrees.

The total rainfall locally varied from 1·33 inches at Clifton, to 1·25 inches at Fishponds, falling upon 10 days. These falls are decidedly deficient, the departure from the average being as much as two inches.

Mean atmospheric pressure was 29·989 inches, a value not differing materially from normal. The maximum reading at 9 a.m. was 30·375 inches on the 17th, and the minimum 29·539 inches on the 7th.

October.—This month opened with fine and closed with three rainy days, but between these times unusually dry and fair conditions prevailed for the time of the year. A remarkable feature of the month was the period of cold which prevailed from the 16th to the 26th, no less than

nine frosty nights, some of great severity for the season, occurring within these dates, while the day temperatures only once showed a value exceeding 50 degrees.

The mean temperature was 46·2 degrees, this being over three degrees below the average and over four below that of the month in 1904. The extremes were 64·1 degrees on the 9th, and 25·0 degrees on the 22nd. The warmest day was the 9th with a mean temperature of 56·6 degrees, and the coldest the 22nd, mean 36·4 degrees.

The total rainfall at Clifton was 2·03 inches, and at Fishponds 1·72 inches ; falling on 15 and 13 days respectively. These amounts do not much exceed half the usual quantity.

Mean pressure was 30·073 inches, a value well above the average. The maximum reading at 9 a.m. was 30·510 inches on the 11th, and the minimum 29·215 inches on the 31st.

November.—Apart from the third week, which was rainless cold and winterly, rain fell to a greater or less extent daily throughout the month. In spite of this, however, the fall was not excessive, the amounts as a rule being by no means large.

The mean temperature was 41·2 degrees, over three degrees below the average. The maximum was 53·3 degrees on the 25th, and the minimum 24·8 degrees on the 17th—a range of 28·5 degrees. Eight frosty nights occurred.

At Clifton 3·02 inches of rain fell, and Fishponds 2·87 inches, falling upon 20 and 21 days respectively. These amounts show a fairly average fall.

Mean atmospheric pressure was very deficient the figures from observations taken at 9 a.m. being 29·693 inches. The extremes were 30·205 inches on the 21st, and 28·969 inches on the 13th.

December.—Apart from a few days at the close of the first week, and for a short period immediately following Christmas Day, anti-cyclonic conditions predominated throughout this month. The weather, therefore, was generally speaking dry and fair, while frost was chiefly conspicuous by its absence.

Mean temperature was 41 degrees, a value very slightly below the average of the past decade. The extremes were 52·7 degrees on the 7th, and 27·8 degrees on the 12th —a range of 24·9 degrees. The warmest day was the 8th, with a mean temperature of 48·3 degrees ; and the coldest the 31st, mean 34·7 degrees.

Four frosty nights occurred.

The rainfall amounted to 1·13 inches at Clifton, and 1·05 inches at Fishponds, falling upon 13 and 12 days respectively. These figures show a deficiency locally of over two inches.

Mean pressure was 30·232 inches, a value much in excess of normal. The maximum reading at 9 a.m. was 30·895 inches on the 12th, and the minimum 29·365 inches on the 29th.

The outstanding feature of the year was undoubtedly its deficiency of rainfall. In spite of the extreme dryness of the majority of the months, however, the drought was not so self evident as might have been expected, owing to the copious rainfalls of March and June, and to a lesser extent April and August.

H. H. HARDING, F.R., Met. Soc.

The rainfall values for Clifton are taken at 215 feet above sea-level, and at Fishponds 160 feet.

For the rainfall for Cliton, and the averages used for comparison in these notes, I am indebted to the courtesy of Mr. R. F. Sturge, F.R., Met. Soc.

Meteorology for the 52 Weeks, ending December 30th, 1905.

Height above Mean Sea Level—250 *feet.*

1905. Week Ending	BAROMETRIC PRESSURE at 32° and Sea Level			Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind.
	Mean	Highest	Lowest												
	Inches	Inches	Inches												
Jan. 7	30·28	30·73	29·82	43·6	50·3	33·5	53·4	28·3	28·0	8·5	17·5	2·6	82	3·06	Wly.
,, 14	30·26	30·63	30·01	41·0	46·4	35·2	52·6	29·4	28·9	7·9	12·4	1·8	—	–	W.
,, 21	29·83	30·35	28·52	35·9	40·4	33·2	44·3	25·8	25·2	12·3	15·2	7·7	—	—	E.
,, 28	30·58	31·00	30·26	36·1	39·9	32·7	48·1	25·3	25·9	13·1	16·0	9·3	90	2·29	Variable
Feb. 4	30·42	31·02	30·05	42·6	45·2	39·1	49·1	33·2	28·9	6·5	11·9	2·7	82	2·65	Wly.
,, 11	30·45	30·54	30·35	45·8	48·3	42·2	51·3	35·2	33·5	7·6	14·1	4·8	87	2·92	Wly.
,, 18	30·43	30·70	30·15	42·3	47·6	37·6	53·1	32·8	31·7	9·5	13·8	6·1	88	2·89	Wly.
,, 25	30·17	30·50	29·89	37·7	42·9	35·5	46·1	28·5	28·0	9·0	15·6	3·9	77	1·89	Nly.
March 4	29·67	30·34	29·21	39·9	41·8	38·6	47·9	30·6	29·4	12·3	17·3	9·5	76	2·21	—
,, 11	29·78	30·18	29·06	43·7	45·8	42·6	51·1	37·0	33·5	10·8	12·5	9·0	80	2·82	S. W.
,, 18	29·27	29·65	28·79	46·2	50·9	41·2	55·8	39·1	31·4	6·8	15·6	2·6	83	3·03	Sly.
,, 25	28·87	30·10	29·73	48·1	51·3	44·4	61·3	38·5	37·9	15·6	22·8	8·2	82	2·82	Nly.
April 1	29·98	30·30	29·70	47·4	49·6	43·4	52·0	33·4	28·0	11·4	14·2	7·4	81	2·94	Sly.
,, 8	30·02	30·14	29·80	46·6	48·9	42·6	54·3	34·8	35·4	10·6	15·6	5·3	81	2·82	Wly.
,, 15	29·64	29·81	29·31	49·0	55·4	42·8	57·8	34·9	36·9	12·4	17·5	5·0	88	3·42	N. E.
,, 22	29·99	30·24	29·65	44·4	50·7	40·4	58·3	35·4	34·0	11·0	15·2	7·6	71	2·41	N.
,, 29	29·90	30·07	29·51	48·9	52·8	44·4	57·0	39·1	36·0	9·5	13·7	6·4	74	3·05	S.
May 6	29·87	30·48	29·20	50·2	58·0	46·2	64·9	37·3	37·9	15·8	25·6	8·8	73	3·01	Sly.
,, 13	30·32	30·42	30·19	51·8	53·2	50·6	62·3	39·3	38·9	18·7	22·8	13·8	71	3·08	W.
,, 20	30·25	30·40	30·04	54·6	58·7	48·5	72·0	46·3	45·0	20·2	25 6	12·3	72	3·23	N. E.
,, 27	30 05	29·96	30·17	50·4	55·6	45·5	67·1	36·4	—	19·6	20·9	11·0	67	2·97	Variable.
June 3	30·10	30·21	29·99	59·6	63·6	57·7	73·3	50·8	49·6	14·3	19·3	9·4	75	4·05	Sly.
,, 10	29·99	30·08	29·88	53·4	58·9	47·7	67·0	43·3	43·3	13·8	22·2	6·8	78	3·47	N. E.
,, 17	29·84	29·98	29·78	60·3	65·8	57·3	72 3	49·2	48·5	14·1	20·1	8·8	79	4·49	Ely.
,, 24	30·10	30·40	29·75	62·1	68·8	58·7	79·3	50·8	49·5	16·2	28 0	6·9	76	4·44	Sly.

Meteorology for the 52 Weeks—Continued.

Height above Mean Sea Level—250 *feet.*

1905. Week Ending	BAROMETRIC PRESSURE at 32° and Sea Level			Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind.
	Mean	Highest	Lowest												
	Inches	Inches	Inches												
July 1	29·90	30·20	29·69	63·7	67·3	61·0	77·7	55·5	52·7	13·0	20·7	3·9	72	4·74	Ely.
,, 8	30·17	30·30	30·06	63·0	69·1	59·9	82·2	49·0	49·9	16·0	26·1	11·0	69	4·18	W.
,, 15	30·15	30·27	30·06	66·6	69·6	63·8	79·3	58·7	57.2	13·2	19·3	10·3	74	5·06	Wly.
,, 22	30·13	30·30	30·02	65·4	69·0	61·7	78·1	52·2	49·7	16·7	21·5	9·2	72	4·67	Sly.
,, 29	29·99	30 06	29·90	66·9	73·6	64·2	78·0	55·0	53·9	13·5	18·7	8·4	83	5·63	S. & N.W.
August 5	29·79	30·05	29·42	60·9	65·3	56·5	70·8	50·8	50·9	12.7	20·0	5·6	72	4·38	W.
,, 12	30·05	30·36	29·86	60·9	63·3	58·8	70·5	51·5	51·8	13·0	14·7	11·3	73	4·46	Wly.
,, 19	30·11	30·31	29·86	63·9	67·4	61·9	75·9	51·5	52·9	14·3	21·3	4·7	67	4·57	Ely.
,, 26	29·85	30·05	29·62	59·0	60·5	56·9	67·0	50·0	49·7	12·6	16·4	8·5	75	4·56	S.W. & N.W.
Sept. 2	29·87	30·36	29·42	57·8	61·6	56·4	66·4	49·7	49·0	11·7	14·6	7·4	84	4·54	W.
,, 9	29·90	30·14	29·64	60·3	63·0	57·6	69·8	51·8	50·1	6·7	15·8	5·2	81	4·90	W.
,, 16	30·19	30·41	29·66	54·8	57·6	51·5	63·0	41·3	42·2	13·4	20·5	7·2	78	3·78	N.
,, 23	30·17	30·38	29·87	55·0	58·6	51·5	64·0	43·0	43·3	14·2	17·9	9·3	82	3·79	N.
,, 30	29·96	30·03	29·72	52·8	56·5	48·1	62·3	44·2	43·0	11·6	14·3	5·0	88	3·88	N.E.
October 7	30·01	30·37	29·64	51·4	55·5	41·7	59·6	41·2	41·1	9·7	6·9	7·7	80	3·41	Wly.
,, 14	30·37	30·52	30·25	51·1	55·8	45·3	64·0	36·8	37·9	6·5	17·0	10·0	84	3·62	Variable.
,, 21	30·09	30·38	29·69	41·5	48·4	39·1	55·3	31·0	30·9	15·0	18·2	13·1	82	2·38	Nly.
,, 28	30·25	30·32	30·14	41·5	46·7	38·3	53·3	29·7	29·9	15·7	17·3	12·8	87	2·44	W. S.W.
Nov. 4	29·46	29·76	29·14	47·9	49·8	43·7	55·2	38·4	36·1	9·2	11·0	5·9	89	3·17	Sly.
,, 11	29·71	30·12	29·38	42·5	44·4	40·3	52·5	33·2	32·0	12·6	16·1	6·7	92	2·92	Sly.
,, 18	29·70	30·21	29·00	39·1	46·7	31·2	49·2	26·6	27·1	6·5	12·6	3·2	95*	2·59	W. N.W.
,, 25	29·94	30·22	29·78	38·8	44·9	32·9	54·1	26·4	27·0	14·4	22·9	6·3	84†	2·55†	Variable.
Dec. 2	29·83	30·41	29·20	42·4	46·2	39·1	52·1	33·9	34·5	8·5	11·8	4·3	88	2·81	Ely.
,, 9	30·14	30·49	29·88	45·7	58·6	38·7	53·2	33·2	31·0	9·4	16·8	2·0	92	3·06	S. E.
,, 16	30·63	30·85	30·39	39·2	41·9	37·1	50·6	31·4	30·0	10·3	17·2	1·8	92	2·37	Variable.
,, 23	30·47	30·62	30·01	42·8	47·8	36·9	50·3	32·3	32·0	6·4	10·6	2·4	73	2·39	S.E. to N.E.
,, 30	29·97	30·46	29·45	40·8	42·8	39·2	45·8	35·1	33·9	8·1	9·2	2·1	91	2·72	E.

* Average for 5 days. Water in wet bulb frozen, so for two days observations not taken.
† Average for 5 observations. Water frozen the two other days.

Rainfall of 1905.

Taken at Clifton College.

Week Ending.	Rain Inches.	Week Ending.	Rain Inches.
January 7	·392	July 8	·126
,, 14	·288	,, 15	·115
,, 21	·141 (Snow)	,, 22	·150
,, 28	·023	,, 29	·131
February 4	·053	August 5	·948
,, 11	·055	,, 12	·240
,, 18	·045	,, 19	·127
,, 25	·167	,, 26	1·147
March 4	·722	Sept. 2	1·460
,, 11	1·861	,, 9	1·117
,, 18	1·777	,, 16	·093
,, 25	·432	,, 23	·016
April 1	·357	,, 30	·041
,, 8	·252	October 7	·484
,, 15	1·442	,, 14	·023
,, 22	·142	,, 21	·055
,, 29	·993	,, 28	·228
May 6	·159	Nov. 4	1·661
,, 13	Nil	,, 11	·841
,, 20	·014	,, 18	·444
,, 27	Nil	,, 25	·417
June 3	·184	Dec. 2	·553
,, 10	·863	,, 9	·808
,, 17	1·192	,, 16	·023
,, 24	1·183	,, 23	·095
July 1	1 025	,, 30	·220

D. RINTOUL.

Rainfall 1905.

Month.	Rainfall in Inches.	Average of 24 Years.	Departure from Average.	No of days on which ·01 inche- or more rain fell
January	0.569	2·264	- 1·695	8
February	0·762	2·227	- 1·465	10
March	4·682	2·330	+ 2·352	21
April	2·971	2·184	+ 0·787	20
May	0·069	1·989	- 1·920	3
June	4·285	2·281	+ 2·004	16
July	0·642	2·840	- 2·198	7
August	3·872	3·214	+ 0·668	17
September ..	1·321	2·829	- 1·508	11
October	1·980	3·744	- 1·864	13
November	2·826	3·026	- 0·200	18
December	1·126	3·370	- 2·244	11
	25·005	32·685	- 7·655	155

TABLE I. Vital Statistics of Whole District during 1905 and Previous Years.

CITY OF BRISTOL.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate per 1000 population.	Number.	Rate per 1000 Births registered.	Number	Rate per 1000 population.				Number.	Rate per 1000 population.
1	2	3	4	5	6	7	8	9	10	11	12	13
1895	228,139	6,622	29·0	935	141·1	4,108	18·0	836	131			
1896	230,626	6,537	27·8	908	138·9	3,960	16·8	809	138			
1897	232,242	6,514	28 0	949	145·6	3,988	17·1	821	122			
EXTENSION OF CITY BOUNDARIES.												
1898	316,900	9,061	28·5	1,491	164·5	5,441	17·1	881	70		5,371	16·9
1899	320,911	9,336	29·0	1,467	157·1	5,844	18·2	1,048	89		5,755	17·9
1900	324,973	8,972	27·6	1,185	131·9	5,397	16·6	971	79		5,318	16·3
1901	329,086	8,889	27·0	1,159	130·4	5,249	15·9	1,039	79		5,170	15·7
1902	334,632	9,368	27·4	1,225	130·7	5,905	17·3	1,173	115		5,790	16·9
1903	338,895	9,239	27·2	1,075	116·3	4,822	14·2	1,094	118		4,704	13·8
1904	343,204	9,135	26·6	1,222	133·7	5,347	15·5	1,162	109			
Averages for years 1895-1904 ...	299,960	8,367	27·8	1,161	138·7	5,006	16·7	983	105	*		
1905	358,515	9,649	26·9	1,182	122·4	5,286	14·7	1,197	97	4	5,193	14·4

*The information required is not available.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Area of District in acres (exclusive of area covered by water) 11,705

At Census of 1901.
Total population at all ages 328,945
Number of inhabited houses 58,235
Average number of persons per house .. 5·6

I.	II.	III.
Institutions within the District receiving sick and infirm persons from outside the District.	Institutions within the District receiving sick and infirm persons from the District.	Other Institutions, the deaths in which have been distributed among the several localities in the District.
Royal Infirmary,	Royal Infirmary.	City Hospitals :—
General Hospital,	General Hospital.	Novers Hill,
Children's Hospital.	Children's Hospital.	Ham Green,
		Clift House (temporary only).

CITY OF BRISTOL.

Names of Localities	1.—Ashley.				2.—Bedminster.				3.—Bristol Central.				4.—Clifton.				5.—Knowle.				6.—St. George.				7.—St. Philip.				8.—Stapleton.				9.—Westbury-on-Trym.			
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c*	*d.*	*a.*	*b.*	*c.*	*d.*
*1895 ...																																				
*1896 ...																																				
*1897 ...																																				
*1898 ...																																				
1899 ...	38,921	880	496	108	53,814	2,010	1,014	344	54,247	1,282	993	227	46,869	770	658	97	8,346	339	141	42	48,155	1,783	819	278	52,909	1,656	841	271	17,650	530	251	63				
1900 ...	40,107	843	510	109	54,828	1,938	909	236	54,108	1,158	826	150	47,301	660	577	74	8,585	352	171	45	48,763	1,764	725	242	53,067	1,603	907	249	18,214	491	238	53				
1901 ...	42,548	877	472	73	55,838	1,984	894	248	53,001	1,082	795	194	46,820	701	552	71	8,671	401	146	37	50,501	1,798	755	248	52,269	1,477	794	208	19,438	569	221	80				
1902 ...	40,881	875	502	100	61,672	2,087	968	237	44,744	1,131	829	176	44,260	665	591	77	13,709	452	199	56	58,194	1,842	884	253	48,891	1,665	997	258	22,191	607	257	60				
1903 ...	42,039	943	462	92	63,142	2,041	797	229	43,726	1,065	618	139	44,435	660	494	56	14,058	451	153	39	59,738	1,822	747	214	48,986	1,614	711	203	22,771	553	214	64				
1904 ...	42,842	894	411	75	64,505	2,003	850	243	42,793	1,027	706	157	44,446	688	556	68	14,679	522	200	65	61,670	1,779	853	273	48,810	1,545	814	238	23,459	575	260	62				
Averages of Years 1895 to 1904.																																				
1905 ...	44,144	921	445	86	65,877	2,072	826	234	41,864	1,042	771	162	44,462	702	558	69	15,302	548	199	50	63,612	1,792	759	216	48,639	1,586	735	226	21,151	556	241	68	10,464	347	135	41

*The Registration Sub-Districts were so interchanged and altered at the Extension of the City in 1897, by the consequent re-arrangement of Boundaries in 1898, that this Table cannot be given for previous years.

CITY OF BRISTOL.

Cases of Infectious Disease notified during the Year ending 30th December, 1905.

Notifiable Diseases.	Cases notified in Whole District.							Total Cases notified in each Locality.										From each Locality. No. of Cases removed to Hospital									
	At all Ages.	At Ages—Years.						Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Institutions	Not belonging to Borough	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Institutions	Not belonging to Borough
		Under 1.	1 to 5.	5 to 15.	15 to 25	25 to 65.	65 and upwards																						
Small-pox	13	..	...	...	2	10	1	...	...	...	...	..	..	3	...	5	5	...			...	..	...	..	3	.	4	6	
Cholera	...	...	.	..		...	..		..	...	.	...	..	...	...	...	...	.	...	...	...		...	.	...	..	...	...	...
Diphtheria	1008	21	237	585	91	74	...	223	86	122	84	65	109	84	167	33	29	6	84	32	72	38	30	59	41	118	16	1	6
Membranous croup	13	1	9	3	...	..	...	...	1	1	...		9	1		...	1	...		...	1	...	...	1	...	.	...	..	.
Erysipelas	303	8	12	14	26	200	43	37	42	43	22	15	56	51	10	9	18		...	7	5	2	...	...	4	...	...	1	...
Scarlet fever	1085	7	346	636	68	28	...	127	147	139	99	97	204	140	55	41	34	2	59	80	101	46	45	95	99	24	26	32	2
Typhus fever	1	...	...	...	...	1			1	...	..	...	...		..	...	...		...	...	...	...		...	...	...	...	...	...
Enteric fever ...	76	2	5	11	25	33	...	4	1	13	4	1	17	15	2	1	9	9	2	.	11	2	...	10	12	1	1	2	9
Relapsing fever ..	...	...	...	.	...	...	...	...		...		...	...		...		...	...	...	...		...	...	.		...		..	...
Continued fever ...	...	...	.	...	...	...	..	...	.	...	...			.	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Puerperal fever ...	30	...	...	...	9	21	...	1	7	9	...	6	3	3	1	...	...	..		1	1	...	2	2	...	...	...	...	...
Plague ...	...	...	...	...	...	...	..	...	...	...	...	...		...	...	...	...		...			.		...	...	...		...	...
Totals ...	2529	39	609	1249	221	367	44	392	285	327	209	184	398	297	235	89	96	17	145	120	191	88	77	167	159	143	47	42	17
Phthisis ..	330	..	4	14	75	230	7	32	60	55	21	22	51	32	12	6	39												

Causes of, and Ages at, Death during Year ending December 30th, 1905.

Cause of Death.	Deaths in whole District at Subjoined Ages.							Deaths in Localities (at all Ages).											Deaths in Public Institutions.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25	25 and under 65	65 and upwards	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Tyrm	Municipal Institutions	Not belonging to Borough	
SMALL-POX	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Chicken Pox	1	1	.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
MEASLES	180	29	139	11	1	...	...	6	63	21	11	9	19	24	6	3	18	...	22
SCARLET FEVER	39	...	22	15	1	1	...	4	8	6	1	1	8	8	1	1	...	1	27
WHOOPING-COUGH ...	123	52	69	2	...	...	..	5	32	19	3	2	15	41	2	1	3	...	8
DIPHTHERIA	56	1	29	23	2	1	...	6	6	3	4	2	13	7	14	1		...	28
MEMBRANOUS CROUP...	3	...	2	1	...	...	...	...	1	...	...	...	...	...	...	1	1	...	1
Croup	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
FEVER — Typhus	...	...	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
FEVER — Enteric	13	...	1	1	4	7	...	...	...	1	...	...	5	3	1	1	1	1	9
FEVER — Other continued ...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Cerebro Spinal Meningitis ...	2	1	...	...	...	1	...	...	...	...	...	..	...	...	...	1	1	..	1
Influenza	54	2	1	1	3	22	25	4	4	2	11	2	10	2	1	...	18	...	18
Cholera	...	...	...		...	...	...	...	..	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
DIARRHŒA	169	129	25	...	1	6	8	15	29	22	7	10	37	31	7	7	2	2	27
Enteritis	27	22	2	1	1	...	1	1	8	5	1	...	4	5	1	2	...	...	3
Puerperal fever	6	...	...	...	...	6	...	...	1	2	...	1	1	1	...	...	...	...	...
Erysipelas	8	1	...	..	...	4	3	2	.	1	...	...	1	1	..	...	3	...	4
Other septic diseases	14	1	...	3	2	5	3	...	1	5	2	...	1	3	...	...	1	1	8
Phthisis	407	3	6	12	88	287	11	34	50	44	24	21	61	48	18	10	96	1	110
Other Tubercular diseases ...	152	38	47	24	13	30	...	18	31	20	5	9	23	15	10	2	14	5	61
Anthrax	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...
Cancer, malignant disease ...	313	...	1	...	2	207	103	28	51	41	57	12	36	21	16	9	31	11	73
Bronchitis	444	108	41	1	1	92	201	30	78	73	33	8	59	95	22	16	30	...	36
Pneumonia	370	92	131	16	11	81	39	24	58	46	42	8	61	76	18	11	22	4	68
Pleurisy	12	1	...	1	...	7	3	2	3	...	1	1	1	3	...	...	1	...	1
Other diseases of Respiratory Organs	89	13	7	2	5	39	23	7	12	6	11	2	10	11	1	3	25	1	32
Alcoholism / Cirrhosis of liver	46	...	...	...	2	38	6	4	5	12	9	3	4	1	2	2	4	...	6
Venereal diseases . . .	24	17	1	...	...	6	...	1	6	2	...	...	4	5	...	...	6	...	6
Premature birth	231	231	...	...	...	...	...	16	41	30	12	18	50	40	13	8	3	...	4
Diseases and accidents of parturition	25	6	...	...	2	17	...	1	5	1	3	1	6	3	1	1	2	1	4
Ac. Rheumatism, Rh. Fever ..	38	1	2	9	3	15	8	2	7	3	4	4	7	6	1	1	3	...	3
Heart diseases	534	15	2	20	27	248	222	62	60	76	92	23	82	49	21	16	48	5	91
Diseases of Blood Vessels ...	266	2	1	2	2	115	144	28	53	31	29	7	35	38	11	4	30	...	47
Diseases of Nervous System ...	415	150	41	15	12	105	92	45	43	43	34	11	53	54	22	2	104	4	129
Diseases of Urinary System ...	166	3	1	3	5	93	61	21	17	18	28	5	11	21	4	3	32	6	59
Other Diseases of the Digestive System..	242	51	18	14	17	94	48	15	30	44	40	9	31	23	10	4	9	27	94
Accidents—Negligence	143	7	15	10	20	64	27	8	20	21	14	4	15	21	6	7	11	16	71
Suffocation—Overlying ...	17	15	...	...	...	2	...	1	4	2	2	1	3	...	2	2	...	..	...
Homicide	5	1	3	. .	...	1	...	...	...	1	...	...	4	...	...	...	...	...	1
Suicide	31	...	...	...	4	25	2	4	6	5	3	...	5	1	2	...	2	3	3
All other causes	621	189	16	9	18	83	306	51	93	65	75	25	84	77	28	16	99	8	141
All causes	5286	1182	623	196	247	1702	1336	445	826	671	558	199	759	735	241	135	620	97	1197
District Death Rates								10·01	12·53	16·02	12·55	13·00	11·93	15·11	9·97	12·90	...	. .	...
District Birth Rates								20·80	31·44	24·93	15·79	35·81	28·16	32·60	23·02	33·16	...	...	...
Deaths of Infants under 1								86	234	162	69	50	216	226	68	41	25	5	...
Number of Births								921	2072	1044	702	548	1792	1586	556	347	81	...	...
Infantile Rate ...								93·37	112·93	155·17	98·29	91.24	120·53	142·49	122·30	118·15	...	...	...

CITY RATES.

No. of Births.	Birth Rate.	Death Rate. This Year.	Death Rate. Last Year.	Death Rate. 10 Years Average	Zymotic Rate.	Infantile Rate.
9649	26·91	14·74	15·58	16·75	1·62	122·49

Average age at Death of persons aged 65 and upwards, 75 *years and* 5 *months.*

Births of Illegitimate Children 253

Deaths „ „ 93

Inquests 464

Uncertified Deaths 18

TABLE V. **INFANTILE MORTALITY during the Year ending 30th December, 1905.**

Deaths from Stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
All Causes :—																	
Certified	264	54	57	35	410	131	92	84	70	64	75	52	51	46	42	49	1166
Uncertified	15	..	..	..	15	..	..	..	..	..	..	1	..	..	..	..	16
Common Infectious Diseases :—																	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	2	..	3	2	4	2	3	7	23
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria: Memb. Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Whooping Cough	..	..	1	1	2	6	4	3	3	1	4	7	6	5	3	6	50
Diarrhœal Diseases :—																	
Diarrhœa, all forms	..	4	4	..	8	11	11	14	15	15	12	6	6	4	4	3	109
Enteritis (not Tuberculous)	..	2	1	1	4	6	5	5	5	2	4	1	1	2	1	1	37
Gastritis, Gastro-intestinal Catarrh	..	1	..	..	1	3	1	1	1	..	1	..	2	..	2	..	12
Wasting Diseases :—																	
Premature Birth	171	19	5	7	202	5	1	2	..	..	..	1	..	..	..	..	211
Congenital Defects	14	..	5	4	23	5	3	1	2	4	2	1	..	..	..	..	41
Injury at Birth	3	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	3
Want of Breast-milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atrophy, Debility, Marasmus	19	8	13	8	48	19	16	12	11	8	8	3	2	3	3	1	134
Tuberculous Diseases :—																	
Tuberculous Meningitis	..	..	..	..	..	..	..	..	..	2	4	2	4	3	..	..	15
Tuberculous Peritonitis: Tabes Mesenterica	..	..	..	..	..	..	2	1	..	1	3	2	..	1	..	1	11
Other Tuberculous Diseases	..	..	..	..	..	2	..	..	1	..	2	1	..	2	4	2	14
Erysipelas	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	1
Syphilis	2	..	2	2	6	4	2	4	1	..	..	..	..	..	..	..	17
Rickets	..	..	..	..	..	..	1	..	2	1	1	..	2	1	..	2	10
Meningitis (not Tuberculous)	..	..	..	1	1	2	..	3	1	1	2	..	2	..	2	..	14
Convulsions	16	5	5	2	28	13	6	8	4	7	7	4	4	4	3	..	88
Bronchitis	..	3	3	2	8	22	14	8	3	9	5	6	9	4	6	7	101
Laryngitis	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	2
Pneumonia	1	1	..	2	4	6	10	10	7	7	9	5	6	8	9	8	89
Croup—Spasmodic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suffocation, overlying	8	..	..	..	8	4	1	1	..	..	..	1	..	..	..	..	15
Other Causes	45	11	18	4	78	21	15	11	12	6	8	10	3	7	2	10	183
	279	54	57	35	425	131	92	84	70	64	75	53	51	46	42	49	1182

CONTENTS, 1905.

PART I.

Report of Medical Officer of Health.

PART II.

PART III.